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TRANSACTIONS

OF THE

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THIRTY-FOURTH ANNUAL MEETING

OF THE

OHIO STATE MEDICAL SOCIETY,

HELD AT

DAYTON,

June 3d, 4th, and 5th, 1879.

COLUMBUS, O.
COTT & HANN, BOOK PRINTERS,
1879.

THIRTY-FOURTH ANNUAL MEETING

OF THE

Ohio State Medical Society,

HELD AT

DAYTON, JUNE 3d, 4th, and 5th, 1879.

FIRST DAY.

AFTERNOON SESSION.

The Society met at Association Hall, at 2 o'clock, P. M., and was called to order by the retiring President, W. H. Philips, M. D., of Kenton.

Prayer was offered by Rev. G. F. Stelling.

The President elect, Dr. B. B. Leonard, of West Liberty, was then introduced by his predecessor in office, with a brief biographical sketch, and took the chair. Vice-Presidents J. C. Kennedy, B. F. Hart, and J. L. Mounts were also present and occupied seats on the platform.

ADDRESS OF WELCOME.

Dr. J. M. Weaver of the Soldiers' Home, and President of the Montgomery county Society, welcomed the State Society as follows:

MR. PRESIDENT AND FELLOW MEMBERS OF THE OHIO STATE MEDICAL SOCIETY:

As presiding officer of the Montgomery county Medical Society, it becomes my duty on this occasion to welcome you to this city and our midst.

Twenty-six years have passed and gone since Dayton has been favored with one of your meetings. In looking over the list of names of members and delegates then present, I am surprised to find so few that are living or active in the profession, and so with our own local society. There are to-day but two or three active members of the profession in this county that met with you then. Many have gone down before the reaper, Death, in the heat and burden of the day, with the harness on and their armor buckled about them. Others have been gathered like the golden sheaves of harvest, fully ripe. This past quarter of a century has been full of honor to the State and Nation. Rapidly one after another feature in political, civil and professional life have crowded themselves to the front, until to-day the American Nation stands pre-eminent above all others, and Ohio the brightest of the galaxy of States.

Gentlemen, the profession of Dayton and surrounding country bid you welcome! You have come, not to devise means for your own welfare and aggrandizement, but in the interest of the whole community, to talk over and devise measures for the prevention of disease and ill to mankind, as well as the best means of restoring to health those that are suffering. With many of you these yearly gatherings are about the only vacation from arduous daily duty that you have. Here for the few days assembled, we hope you will forget the daily round of visitation, and enjoy freedom from your exacting cares.

In and about this beautiful city of 40,000 inhabitants, located as it is, in one of the extensive and fertile valleys of the country, you will find many things to interest you

during the intervals of your daily sessions. In many places and towns and cities, it is a problem difficult of solution as to *how* to care for the poor and unfortunate, who, because of sickness or injury, are unable to care for themselves; our city, almost entirely through the energy of her medical citizens, has succeeded in putting in successful operation a well arranged Hospital, sufficient now to meet urgent requirements, and capable of being added to as necessity may require. I am told that the "latch-string" is out, and that you will be welcome to walk through its well-kept wards.

On the southern borders of our city, occupying a beautiful and commanding situation, is one of the institutions provided by the State for the care and treatment of those bereft of reason; the building is large, commodious, and well arranged; the grounds beautiful and well kept—the whole under the supervision of one of our number, under whose and his assistants' kind and experienced care, very many are restored to reason and the society of their friends.

This county, through the generosity of its citizens, inspired by some of its warm-hearted men and women, some years ago organized and carried into successful operation, and now maintains, an Orphan's Home, which is a model in construction and keeping. No class of people are more interested in caring for the poor waifs of humanity than our noble profession. To those of you representing counties contemplating the erection of like buildings, and to all, this institution is worth a visit. Its doors stand wide open to admit you.

On the western bank of the Miami, some three miles distant, overlooking the valley and city, is located the Central Branch of the National Home for Disabled Volunteer Soldiers. The grounds are extensive and inviting, the buildings many and ornamental, the lawns, gardens, grottoes, lakes, and parks beautiful, the library and hospital large and comfortable. Here 4,000 veterans, disabled by sickness or wounds, occasioned by true devotion to the flag of the country, find a home and resting place, whilst 1,200 of their comrades "sleep the sleep that knows no waking." A cordial invitation will be extended by the commandant for you to visit this place in a body, at such time as you may determine.

In and about the city, at various points, are located very

many large and prosperous business enterprises, in which are invested immense sums of money, and which furnish employment to a large number of men: such as the Barney & Smith car works—an establishment covering acres of ground—building cars for a large proportion of the railroads of this country, as well as foreign lands; other establishments for the manufacture of agricultural and other kinds of machinery. A visit to them would be pleasant and profitable, but I cannot take your time with any further enumeration of the many points of interest connected with this city and valley.

Mr. President and gentlemen of this Society, your auxiliary—one of your eldest born, extends to you a sincere, cordial, and hearty greeting; its members, one and all, stand ready to do anything to add to your comfort and pleasure during your sojourn here. We sincerely hope that this meeting of the Ohio State Medical Society may be one of pleasure and profit; that you will carry away with you many happy thoughts of your meeting here, and that a quarter of a century may not again intervene ere you greet us again with your presence.

The Executive Committee, through its Chairman, Dr. W. J. Conklin, submitted the following report, which was adopted:

REPORT OF EXECUTIVE COMMITTEE.

MR. PRESIDENT:

The Executive Committee beg leave to submit the following report:

Association Hall, in which we are now assembled, has been secured for the meetings of the Society. The Young Men's Christian Association has kindly placed its private rooms, adjoining the hall, at our disposal, for committee purposes.

The necessary stationery has been provided for the use of the Society.

ORDER OF BUSINESS.

The meetings for daily sessions will be at 9 o'clock A. M., and 2 o'clock P. M.

The order of business for each session will be:

1st. Reading the minutes of previous session.

2d. Nominations for membership; report of Committee on admissions; election of new members and report of Committee on medical societies.

3d. Reports of officers.

4th. Unfinished business that has not been made a special order.

5th. New business.

6th. Reports of standing committees.

7th. Reports of special committees.

8th. Volunteer papers.

9th. Miscellaneous business.

To avoid interruption to business, your Committee respectfully suggest that the Committee on admissions be limited to four reports daily, *i. e.*, immediately after the disposal of the minutes, and just previous to adjournment at each session.

The election of officers will take place on Wednesday afternoon, immediately after the report of the Committee on admissions.

The address of the retiring President will be delivered immediately after the election of officers.

The Montgomery County Medical Society entertains the Society at Castle Hall, Jefferson street, Wednesday evening.

On Thursday afternoon, there will be an excursion to the National Home D. V. S., under the auspices of the local society.

The train will leave Union Depot at 2 o'clock P. M. Trip tickets will be distributed to members by the local Committee.

COMMITTEES FILLED.

The Committee on Admissions was filled by the appointment of Drs. H. S. Conklin, X. C. Scott, John Carson, and B. W. Davis.

The Committee on Medical Societies was filled by the appointment of Drs. R. L. Sweney and A. C. McLaughlin.

The Finance Committee was filled by the appointment of Drs. C. S. Hart, and I. L. Drake.

Dr. E. Griswold, of Sharon, Pa., delegate from the Pennsylvania State Society, was presented by Dr. J. C. Hubbard, and invited to participate in the deliberations of the Society.

Dr. Jesse Snodgrass was appointed Asst. Secretary *pro tem.*

REPORT OF OFFICERS.

The report of Dr. T. W. Jones, as Librarian, was received, and that of same as Treasurer was referred to the Financial committee.

REPORT OF TREASURER.

Amount received from former Treasurer, ...	$85.00
Fees and dues collected, ...	963.00
One volume sold, ...	1.00
	$1049.00
Amount disbursed, ...	604.05
Amount on hand, June 3d, 1879, ...	$444.95

Report of Secretary, J. F. Baldwin, was made, and referred to Finance committee.

The chairman of the Publication Committee, J. F. Baldwin, made his report, which was also referred to the same committee.

VOTE OF THANKS.

Dr. E. W. Howard moved that the thanks of this Society be tendered the Committee on Publication for the prompt issue and neat appearance of the volume of transactions of 1878. *Carried.*

COMMITTEE ON OBITUARIES.

A letter was read from Dr. P. M. Wagenhals, Committee on Obituaries, explaining his absence, and requesting permission to present his report to the Publication Committee. *Request granted.*

INVITATIONS.

Invitations from the authorities of St. Elizabeth's Hospital, and Montgomery county Children's home, inviting the society to visit their institutions, were read and accepted.

CODIFYING COMMITTEE.

Dr. T. W. Gordon, Chairman of the committee appointed to codify the laws of the Society, read a report of the work of the committee. This report was, at first, ordered to be printed in the Transactions, but afterwards, by adoption of report of Finance committee, (which see) referred.

DR. BARTHOLOW'S PAPER.

Dr. Roberts Bartholow, special committee on that subject, read a report on "The Treatment of the Various Forms of Consumption." *Referred.*

DR. BUCKNER'S PAPER.

Dr. J. H. Buckner made a report on "The Preservation of Good Eye-sight and the Use of Spectacles." *Referred.*

Society adjourned to meet at 9 A. M., to-morrow.

SECOND DAY.

MORNING SESSION—9 O'CLOCK A. M.

President B. B. Leonard in the chair. Minutes of previous session read and approved.

REPORT OF FINANCE COMMITTEE.

Your Committee suggest that the Librarian dispose of the surplus of the volumes of Transactions of the different years, to the best advantage possible.

Also, that the Publishing Committee be instructed to publish but four hundred and fifty copies of the forthcoming volume of Transactions.

The annual dues for the year shall be one dollar.

We recommend that the salary of the Treasurer be fifty dollars, and of the Secretary fifty dollars.

We also recommend that a suitable proof-reader and editor be appointed by the Publishing Committee, at a salary of thirty-five dollars. This amount to be paid, also, to the proof reader of the Transactions of 1878.

We further recommend that six weeks before the annual meeting the Treasurer shall issue a statement of account to each member, such statement including arrearages and dues for the ensuing year; said dues, until otherwise ordered by the Society, to be fixed at one dollar. If said account is not paid in full, on or before the last day of said annual meeting, the said member shall not be entitled to, nor shall he receive, a copy of the Transactions of said meeting; this action being necessary in order to curtail the expenses of the Society by preventing an over-issue of copies of the Transactions. The Treasurer shall furnish the Chairman of the Publication Committee, immediately on the adjournment of the Society, the number of members entitled to receive the Transactions, and this number shall be the basis for the action of said committee. Non-receipt of Transactions, as thus provided, shall not relieve a member, in any way, from the payment of all dues in full.

The Treasurer's report has been examined, and found correct.

This Committee recommend that the Society reconsider its action of yesterday, and that the report of the Codifying Committee be referred back to the committee, with instructions to codify the by-laws and resolutions now in force, and report at the next meeting. *Adopted.*

Dr. Roberts Bartholow, Chairman, then read the

REPORT OF THE COMMITTEE ON THE CONSOLIDATION OF MEDICAL COLLEGES.

Mr. President and Gentlemen:

Your committee beg to report as follows:

Last year a committee was appointed under the following preamble and resolution:

"WHEREAS, we believe that there are too many medical colleges at present in the State, and that the multiplication of schools is detrimental to the cause of reform in medical education,

"*Resolved*, that a committee be appointed by the society to confer with the Faculties of the different colleges, with a view to consolidate into one school, where more than one exists in a city."

The committee appointed by the President of the Society, under this resolution, consisted of Roberts Bartholow, M. D., Chairman, Drs. John A. Murphy, and D. D. Bramble, of Cincinnati; G. C. E. Weber and X. C. Scott, of Cleveland, and Starling Loving and D. N. Kinsman, of Columbus.

The Chairman, after a preliminary notice, called a meeting of the committee for June 2d, at the time and place of the meeting of the State Medical Society. In this call the representatives of the different schools in each city were requested to submit, after conference between themselves, any propositions to the Committee having reference to the objects contemplated in the resolution of the Society. Although the members of the Committee promised to attend, in reply to the invitation of the Chairman, only Roberts Bartholow, M. D., X. C. Scott, M. D., and J. A. Murphy, M. D., were actually in attendance at the time named in

the call, and no propositions were submitted from any of the schools. Indeed your Committee regard the consolidation of the medical colleges, where two or more exist in a city, as not at present attainable. The evidence before them is only too convincing that rival interests and personal feeling are too strong, in the college organizations, to permit the sacrifices implied in union of their respective faculties. It is quite apparent to your Committee that such a state of affairs is much deplored in the medical profession, and that a strong sentiment exists that medical colleges are too numerous in this State, and that the evil should be remedied by consolidation.

Your Committee entertain no doubt whatever of the truth of the statement in the preamble of the resolution, that "the multiplication of medical schools is detrimental to the cause of reform in medical education." They find that, so keen is the competition, most unbecoming efforts are made to obtain students—that men totally unprepared are urged to enter the colleges, that an appearance of numbers may be made, and that the standard for the doctorate is disgracefully lowered, to swell the number of graduates at the annual commencement.

Your committee further find that the cause of medical education is injured in another way:—that the schools are so numerous and the fees so low that the income of a medical college is not only inadequate for the compensation of the faculty, but is insufficient to equip it properly with the appliances for the proper instruction of students; who, accordingly, remain untrained in all those departments of medical science, a knowledge of which can only be obtained through the aid of elaborate and expensive scientific instruments.

Your committee have, finally, to express their regret, that no more has been accomplised by them, under the resolution of the Society, and to ask that they be discharged from the further consideration of the subject.

Respectfully submitted,

ROBERTS BARTHOLOW, Chairman,
JOHN A. MURPHY,
XENOPHON C. SCOTT.

Report was adopted as read.

DR. KINSMAN'S PAPER.

Dr. Kinsman being absent, his report on "Hog Cholera" was read by title, and referred.

ADVISORY COMMITTEE ON PUBLICATION FILLED.

The Advisory Committee on Publication was filled by the appointment of Drs. W. H. Philips, J. A. Murphy, J. H. Clark, W. J. Conklin, E. W. Howard, R. L. Sweney, S. F. Forbes, A. N. Reed, and T. J. Mullen.

INDIANA DELEGATES.

Drs. Hibbard, Weist and Sweeney, delegates from the Indiana State Society, were introduced by Dr. A. Dunlap, and invited to participate in the discussions.

DR. HERRICK'S REPORT.

Dr. H. J. Herrick presented his report on Benevolent Institutions. *Referred.*

Dr. Hyatt moved that a committee of five members be appointed to memorialize the Legislature, in reference to this subject, with Dr. J. A. Murphy as Chairman. *Carried.*

DR. FORBES' REPORT.

Dr. S. F. Forbes presented his report on the Progress of Surgery. *Referred.*

Dr. J. R. Weist, of Richmond, Ind., President-elect of the Indiana State Society, was invited to a seat on the platform.

DR. REEVE'S PAPER.

Dr. J. C. Reeve presented a volunteer paper on Mixed Anesthesia. *Referred.*

Society adjourned.

AFTERNOON SESSION.

President B. B. Leonard in the chair.

Minutes of previous session were read and approved.

ELECTION OF OFFICERS.

According to the special order of the day, the election of officers took place, with the following result:

J. A. Murphy, Cincinnati, *President.*

John Davis, Dayton,
Thos. G. McEbright, Akron,
J. D. Edwards, Xenia,
C. A. Kirkley, Toledo,
} *Vice-Presidents.*

T. W. Jones, Columbus, *Treasurer and Librarian.*

J. F. Baldwin, Columbus, *Secretary.*

Jesse Snodgrass, Kenton, *Asst. Secretary.*

H. C. Pearce, Urbana,
J. D. Robinson, Wooster,
E. W. Howard, Akron,
W. H. Philips, Kenton,
T. J. Mullen, New Richmond,
} *Com. on Admissions.*

INVITATION FOR NEXT MEETING.

Dr. X. C. Scott, on behalf of the Cuyahoga County Medical Society, invited the Society to hold its next meeting in Cleveland. Invitation referred to the Judicial Council.

PRESIDENT'S ADDRESS.

The President, as per special order, read the annual address.

REPORT ON GYNECOLOGY.

Dr. Thad. A. Reamy, of Cincinnati, special committee on the Progress of Gynecology, read a report, which was referred.

HONORARY MEMBERS.

On motion, Drs. Richard Gundry and Roberts Bartholow were made honorary members of the Society.

J. H. GREEN.

A communication was received from Dr. J. H. Green, resigning his membership. Referred to the Judicial Council.

Adjourned.

THIRD DAY.

MORNING SESSION.

Minutes read and approved.

AMENDMENTS.

Dr. E. W. Howard proposed an amendment to the Constitution, as follows:

Insert, in lines second and third, commencing after the word "Ohio," in line second—"And graduate of a college or school of medicine and surgery that is recognized as in good standing by the profession at large."

The article will then read as follows: "The resident members shall be regular practitioners of medicine and surgery in the State of Ohio, and graduates of a college or school of medicine and surgery that is recognized as in good standing by the profession at large, who shall be elected by vote of a majority at any regular meeting, their eligibility having been previously reported upon by the Committee on admissions."

Dr. J. F. Baldwin also proposed an amendment, fixing the maximum annual dues at $2, instead of $1.

Dr. W. H. Philips presented the following report, which was adopted, on

EXPERT TESTIMONY:

The Committee to whom was referred the subject of Expert Testimony, was organized in obedience to the Resolution on page 64, of Transactions of '78, and the Resolution, on page 18, of the same, by Dr. W. W. Jones. It will be seen that by the first Resolution, the efforts of the committee were, more particularly, to bring some effective agency to bear upon the succeeding Legislature, to interest them in behalf of medical legislation. The Legislature in session at the time this committee was organized, is yet in session, and after some informal consultation by the committee, it was considered best to defer any effort in this direction until the nominations for its successors were made. In the opinion of your committee, there is not a doubt entertained but that any just Legislation, which will tend to promote the interests of the medical profession, or secure to the people greater protection to their health and welfare by sanitary regulation, can be obtained, through a properly organized effort on our part.

In view of the well known fact that the attention of legislators is much more easily obtained before their election than subsequently, and believing that legislation tending to save the lives, protect the health, and promote the economic interests of the citizens of the State, is of paramount importance, we earnestly appeal to every member of our profession to use his personal influence to commit the candidates for election to any legislative office, to an earnest espousal of such propositions for medical legislation as may be brought before the coming Legislature, so far as their judgment may approve the same. We would also commend to the profession the propriety of discussing, each with his own candidate, the proposed legislation, viz: The subject of the organization of a State Board of Health; reform in the laws relating to expert testimony; and other subjects of medical legislation.

We would respectfully recommend the adoption of the following Resolutions:

Resolved, 1st. That there be appointed, at this session, a committee to be called the committee on Medical Legislation, consisting of one member from each Senatorial district of the state, whose duty it shall be to act in behalf of the society, to procure such enactments as may, in its judgment, be deemed necessary for the welfare of the public.

Resolved, 2d. That the President-elect and Secretary of this society shall be *ex-officio* members of the committee, and any expense incurred, for postage or printing, shall be paid out of the funds of the society, and that this committee shall serve for two years, or during the term of the next Legislature.

W. H. PHILIPS,
THAD. A. REAMY.

DR. WALTON'S PAPER.

Dr. G. E. Walton read a paper, which was referred, on National Sanitary Science.

DR. AYRES' PAPER.

Dr. S. C. Ayres read a volunteer paper on Glaucoma, which was referred.

TARIFF ON QUININE.

Dr. A. N. Reed offered the following resolution, which was unanimously adopted:

Resolved, that we request our senators and members of Congress to use their influence to secure the repeal of the duty on quinine.

DR. CONNER'S PAPER.

Dr. P. E. Conner read a volunteer paper on the use of Plaster of Paris Roller in the Treatment of Club-foot. Referred.

DR. HERRICK'S PAPER.

Dr. H. J. Herrick read a volunteer paper on Tubercle, which was referred.

DR. M'LAUGHLIN'S PAPER.

Dr. A. C. McLaughlin read a list of 250 words, which are frequently mispronounced; the more important of which are the following:

Ab-dó-men; al-bú-men; al-lóp-a-thy; a-ré-o-la; al-vé-o-lar; al-vé-o-lus; ac-clī′mate; cĕr′-vi-cal; cól-chi-cum (*ch* like *k*); cim-i-cif′-u-ga; cér-e-bral; cic-à-trix; co-ní-um; cy-nan′-che (*ch* like *k*); em′-e-sis; ep-i-zo ot′-ic; gel-sém-i-num; găl-′ba-num; hem-at-em′-e-sis; hy-o-scy′-a-mus; hyd′-a-tid; mal-le′-o-lus; mĕt′-ric; pod-o-phyl′-lum; phthi′-sis (pronounced thī-sis or thē-sis); pop-lit′-e-al; ru-bē′-o-la; trăg′-a-canth (*g hard*); cér-e-brum; fo-rá-men; du-o-dē′-num; i-od′-o-form; ú-re-a; u-ré-ter; va-rē′-o-la.

Dr. Baldwin added the following: an-ti′-cus; pos-ti′-cus; cér-e-brum, or cer-é-brum (equally correct); tra-ché-a (more correct than as given); chen-o-po′-di-um (*ch* like *k*); chlór-i-dum; i-ód-i-dum.

THE METRIC SYSTEM.

Dr. E. B. Pratt presented a resolution looking to the adoption of the metric system. (See body of book.)

DR. M'DERMOTT'S CASE.

Dr. J. D. Robinson offered the following resolution, which was unanimously adopted without debate:

Resolved, that the resolution offered at the meeting of this society in 1867, by Dr. J. W. Hamilton, impugning the accuracy of the report of the Surgeon General of Ohio, be revoked, and that the proceedings in connection with that resolution be expunged from the records of the society.

CONSOLIDATED REPORT OF COMMITTEE ON ADMISSIONS.

During the session, the following persons were proposed for membership, and, on vote, elected:

NAME.	RESIDENCE.	VOUCHERS.
J. S. Beck	Dayton	W. J. Conklin, John Davis.
A. Scheibenzuber	Dayton	J. M. Weaver, W. J. Conklin.
A. H. Iddings	Dayton	John Davis, W. J. Conklin.
John Wallace	Rushsylvania	W. H. Taylor, W. H. H. Nash.
A. E. Ealy.	Dayton	John Davis, W. J. Conklin.
P. N. Adams	Dayton	D. A. Morse, E. B. Pratt.
J. A. Hines	Van Wert	C. Berlin, W. H. Philips.
J. D. Daugherty	Dayton	T. L. Neal, W. J. Conklin.
J. F. DeBra	Miamisburg	R. Bartholow, John Davis.
A. B. McMurray	Marion	Thos. G. McEbright, R. L. Sweney.
H. M. Lash	Athens	J. F. Baldwin, B. F. Hart.
J. W. Lash	Athens	J. F. Baldwin, B. F. Hart.
C. H. Moore	Hardin	H. S. Conklin, T. L Neal.
W. J. Thompson	Union	J. C. Reeve, W. J. Conklin.
Joseph Morris	Columbus Grove	C. E. Beardsley, E. H. Hyatt.
D. H. LeVan	Mt. Victory	W. H. Philips, Jesse Snodgrass.
W. S. Bookwalter	Miamisburg	W. H. Nash, W. J. Conklin.
E. C. Crum	Dayton	H. S. Jewett, W. H. Taylor.
Alonzo Boone	Harrisburg	W. J. Conklin, W. H. Taylor.
W. H. Minnick	Wapakoneta	R. Bartholow, C. S. Muscroft.
W. M. Beach	London	E. B. Pratt, J. H. Clark, H. C. Pearce.
W. L. Buechner	Youngstown	Thos. G. McEbright, E. W. Howard.
W. N. Yost	Mt. Blanchard	A.S.Williams, C. E. Beardsley.
Julia W. Carpenter	Cincinnati	R. Bartholow, E. B. Stevens.
P. S. Spinning	Springfield	J. D. Rodgers, W. E. Cotton.
R. C. Russ	Hillsborough.	T. W. Gordon, B. D. Granger.
Joseph Ransohoff	Cincinnati	W. W. Seeley, R. Bartholow.
Chancellor Martin	Fort Seneca	G. P. Willard, A. B. Hovey.
R. A. Dwyer	Samantha	Highland Co. Medical Society.
O. M. Corson	Middletown	John Carson, R. Bartholow.
A. C. Wight	Columbus	J. F. Baldwin, H. C. Pearce, E. H. Hyatt.
J. H. Hughes	Delaware	J. F. Baldwin, H. C. Pearce, E. H. Hyatt.
W. T. Barnes	Fredericksburg	H. J. Herrick, J. E. Whitmer.
Leigh McClung	Xenia	J. D. Edwards, A. H. Brundage.
E. B. DuBois	Dayton	W. W. Seeley, P. S. Conner.
E. Pilate	Dayton	T. L. Neal, W. J. Conklin.
J. L. Moore	Moscow	N. S. Hill, P. Kennedy.

NAME.	RESIDENCE.	VOUCHERS.
H. Saunders.....	Oxford..	C. S. Muscroft, J. B. Owsley.
Dan. Millikin... ..	Hamilton.....	C. S. Muscroft, J. B. Owsley.
Thos. Dickey.....	Middletown	John Corson, R. Bartholow.
Geo. Evans.....	Middletown	John Corson, R. Bartholow.
J. E. Fackler.....	Versailles	H. S. Conklin, T. L. Neal.
C. A. Stewart.....	Lynchburg.....	A. N. Reed, T. W. Gordon.
J. A. Douglass.....	Lynchburg.	Wm. Moore, J. L. Firestone.
L. S. Kelsey	Cincinnati.....	R. Bartholow, F. C. Larimore.
J. P. Wallace.....	Bellefontaine.....	A. Dunlap, W. D. Scarff.
J. E. Donnellson..	Germantown.....	J. Davis, W. R. Thompson.
Clinton Smith.....	Bloomingburgh.	T. A. Reamy, S. S. Gray.
R. P. Evans.....	Franklin	W. H. Mussey, J. F. Baldwin.
F. C. Gray.....	Lewisburg	T. L. Neal, W. J. Conklin.
J. G. Reed	West Chester.....	J. H. Buckner, T. A. Reamy.
Sam'l Souders.....	Dayton.....	J. Davis, J. S. Beck.
D. D. Moore.....	Xenia.	J. D. Edwards, T. A. Reamy.
C. B. Jones.....	Xenia.	J. D. Edwards, T. A. Reamy.

REPORT OF COMMITTEE ON MEDICAL SOCIETIES.

The following auxiliary societies are present by duly authorized delegates:

Ross County Medical Society—G. S. Franklin, E. J. Galbraith.

Union Medical Association of North-Eastern Ohio, E. W. Howard.

Academy of Medicine of Cincinnati, Julia W. Carpenter, J. H. Buckner, C. S. Muscroft, M. Cassatt, W. H. Wenning, R. B. Davy, W. E. Shaw.

Clermont Medical Association—Phillip Kennedy, T. I. Mullen, N. S. Hill, G. L. Moore.

Putnam Medical Society—C. E. Beardsley, John Morris.

Miami County Medical Society—C. H. Humphreys, T. J. Wright, J. T. Schoffield, C. C. Cline.

Cuyahoga County Medical Society—H. J. Herrick.

Knox County Medical Society—F. C. Larimore, J. W. McMillen.

Clarke County Medical Society—A. C. McLaughlin, W. E. Felton, E. M. Buckingham.

North-Western Ohio Medical Association—W. N. Yost, C. A. Kirkley, A. S. Williams.

Logan County Medical Society—J. P. Wallace.

Athens County Medical Society—H. M. Lash, J. W. Lash, W. E. Shepherd.

Marion County Medical Society—(admitted at this session) B. W. Davis, A. B. McMurray.

Miami Valley Medical Society—(admitted at this session) J. C. Kennedy, E. B. Stevens.

Seneca County Medical Society—J. Bland, G. P. Willard, Chancellor Martin.

Mahoning County Medical Society—W. L. Buechner.

Highland County Medical Society—C. A. Stewart, R. C. Russ.

Union Medical Society—Wm. Moore, J. L. Firestone, J. A. Douglass.

Zanesville Academy of Medicine—L. F. McKenna.

Delamater Medical Association of Norwalk and Vicinity —A. N. Reed.

Cincinnati Medical Society—B. P. Goode, R. B. Davy.

Wayne County Medical Society—J. D. Robinson.

A constitution and by-laws were handed your committee from Fayette county, Ohio, with nine members' names attached, and with certificates of election as delegates of Drs. Clinton Smith, and J. P. Bonsieur.

There is no Fayette County Medical Society now auxiliary to the Ohio State Medical Society. There is no application from the above named society to become auxiliary. There is also some trouble in a society with the name of Fayette County Medical Society, which must be settled in said society before it can be admitted as auxiliary to this society.

The Mahoning County Medical Society was formerly auxiliary to the Ohio State Medical Society. The name

does not appear in the recent Transactions. This is certainly a mistake, on the part of the State Society. Your committee recommend the restoration of the Mahoning County Medical Society to its place as auxiliary to the Ohio State Medical Society, and the admission of its delegates.

We also recommend that where the same condition exists in relation to any other auxiliary society, the name of said auxiliary be restored to our Transactions.

Application for admission as auxiliary society should be accompanied with a list of members. The plan of admission has not been complied with heretofore. Your committee recommend that hereafter, no society be admitted as auxiliary, without fully complying with plan "D" of our fundamental laws, and the resolution in relation to said societies, and that hereafter plan "D" shall be printed annually in the Transactions.

From the report of the committee of the Miami County Medical Society, it seems that Dr. J. H. Green was allowed to resign his membership in said society after having agreed to renounce his former course, and that after his resignation was accepted, he again commenced the use of the same nostrum, or special treatment, and that he is now so engaged in treating cases of catarrh. We recommend the restoration of the Miami County Medical Society to fellowship, and that the case of the said J. H. Green be referred to the Judicial Council.

THOS. W. GORDON, Chairman.
R. L. SWENEY,
A. C. MCLAUGHLIN,
S. S. GRAY.

Report was adopted.

REPORT OF JUDICIAL COUNCIL.

The Judicial Council have examined the charges and specifications against Dr. J. H. Green, of Troy, for un-

professional conduct, as preferred by your committee on Medical Societies, and find them sustained.

The Council therefore recommend that Dr. J. H. Green of Troy, Ohio, be expelled from all the rights and privileges of this society.

The Council also have in their hands charges preferred by Dr. X. C. Scott, against Dr. A. Wangaman, of Tiffin, for the violation of the Code of Ethics, by advertising himself in various inappropriate ways. Which charges the Council recommend be referred to the Seneca County Medical Society for investigation, of which County Society said Dr. A. Wangaman is a member. The Council also recommend Cleveland as the place for the next meeting, and the time the third Tuesday in June, 1880.

E. W. HOWARD, Ch'mn.

Report adopted.

VOTE OF THANKS.

Dr. W. H. Philips offered the following Resolutions:

Resolved:—That the thanks of this Society are due, and are hereby tendered, to the Executive Committee, for the excellent arrangements made for the accommodation of this Society, and also to the Montgomery County Medical Society, and to the physicians of this city, for their hospitality and generous entertainment during our session.

Resolved:—That the thanks of this Society are due, and are hereby tendered, to Col. Brown, the Commandant at the Soldiers' Home, for his invitation and excellent entertainment of this Society.

Resolved:—That our thanks are due, and are hereby tendered, to our retiring President, Dr. B. B. Leonard, for his promptness and impartiality, and for the able and dignified manner in which he has presided over the deliberations of this Society; also to the Treasurer and Secretaries for their courtesy and efficiency in the discharge of their several duties.

Resolved:—That our thanks are due, and are hereby tendered, to the Young Men's Christian Association of

this city, for the use of their convenient and commodious Hall, and of such other rooms as are needed for our committees.

The resolutions were unanimously adopted.

COMMITTEES.—STANDING AND SPECIAL.

Committee on Admissions.

H. C. Pearce, Urbana, J. D. Robinson, Wooster,
E. W. Howard, Akron, W. H. Philips, Kenton,
T. J. Mullen, New Richmond.

Executive Committee.

H. J. Herrick, Cleveland, W. J. Scott, Cleveland,
D. B. Smith, Cleveland, X. C. Scott, Cleveland,
B. W. Holliday, Cleveland.

Judicial Council.

W. J. Scott, Cleveland, E. W. Howard, Akron,
W. D. Scarff, Bellefontaine, A. Hurd, Findlay,
J. C. Hubbard, Ashtabula.

Committee on Finance.

J. M. Southard, Marysville, E. B. Harrison, Napoleon,
A. H. Agard, Sandusky, Joel Pomerine, Millersburg,
E. J. Reed, Massillon.

Committee on Publication.

J. F. Baldwin, Columbus, J. B. Thompson, Columbus,
W. H. Drury, Columbus, R. M. Denig, Columbus,
N. R. Coleman, Columbus.

Committee on Medical Societies.

Byron Stanton, Cincinnati, S. S. Thorn, Toledo,
D. B. Wood, Warren, S. W. Fuller, Bellefontaine.
L. Woodruff, Alton.

Committee to Codify Resolutions, Motions, Amendments, Etc.

T. W Gordon, Georgetown, J. W. Hadlock, Cincinnati,
S. S. Gray, Piqua.

Advisory Committee on Publication.

T. A. Reamy,	Cincinnati,	John Bennitt,	Cleveland,
T. H. Kearney,	"	W. J. Scott,	"
D. D. Bramble,	"	H. J. Herrick,	"
J. H. Pooley,	Columbus,	W. C. Chapman,	Toledo,
J. B. Schueller,	"	S. S. Thorn,	"
D. N. Kinsman,	"	W. W. Jones,	"

Committee on Obituaries.

Isaac Kay, Springfield.

Committee to Memorialize the Legislature.

1st. District, J. A. Murphy, Cincinnati.
2d. " E. B. Stevens, Lebanon.
3d. " John Davis, Dayton.
4th. " T. W. Gordon, Georgetown.
5th. " R. M. McClellan, Xenia.
6th. " G. S. Franklin, Chillicothe.
7th. " C. M. Finch, Portsmouth.
8th. " Jonathan Morris, Ironton.
9th. " G. W. Pullen, Logan.
10th. " D. N. Kinsman, Columbus.
11th. " T. Morrow Beech, London.
12th. " H. S. Conklin, Sidney.

13th.	District,	W. H. Philips, Kenton.
14th.	"	B. F. Hart, Marietta.
15th.	"	C. C. Hildreth, Zanesville.
16th.	"	E. H. Hyatt, Delaware.
17th.	"	J. W. Russell, Mt. Vernon.
18th.	"	F. Guittard, Coshocton.
19th.	"	M. Green, Cambridge.
20th.	"	C. E. Knox, Bellaire.
21st.	"	M. L. Whiting, Canton.
22d.	"	Enoch Pearce, Steubenville.
23d.	"	C. S. Ward, Warren.
24th.	"	J. C. Hubbard, Ashtabula.
25th.	"	H. J. Herrick, Cleveland.
26th.	"	E. W. Howard, Akron.
27th.	"	L. S. Murray, Medina.
28th.	"	J. D. Robinson, Wooster.
29th.	"	Geo. Mitchell, Mansfield,
30th.	"	H. J. Donahoe, Sandusky.
31st.	"	M. C. Cuykendall, Bucyrus.
32d.	"	T. B. Hines, Lima.
33d.	"	A. Hurd, Findlay.
Ex Officio.		B. B. Leonard, West Liberty. J. F. Baldwin, Columbus.

Special Committees.

Starling Loving, Columbus, Progress of Medicine.

D. A. Morse, Dayton, Diseases of the Nervous System.

E. H. Hyatt, Delaware, Therapeutics—Past and Present.

J. C. Kennedy, Batavia, Insanity.

W. J. Scott, Cleveland, Drinking Water of Cities of Ohio.

D. J. Snyder, Scio, Cystic Degeneration.

J. H. Clark, Mechanicsburg, Heredity.

C. E. Beardsley, Ottawa, Physiological Action and Therapy of Gelsemium Sempervirens.

A. Hurd, Findlay, Epidemic Diseases of Ohio.

T. A. Reamy, Cincinnati, Gynecology.

C. Smith, Bloomingburg, The Possibility of Perfecting the Human Species.

C. S. Muscroft, Cincinnati, Non-Malignant Tumors of the Female Breast.

M. C. Cuykendall, Bucyrus, Dysmenorrhea.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

A. Follett, Granville; A. Murphy, Cincinnati; George E. Walton, Cincinnati; A. V. Patterson, Mansfield; J. W. Craig, Mansfield; H. C. Pearce, Urbana; J. H. Ayers, Urbana; W. J. Conklin, Dayton; J. C. Reeve, Dayton; A. Dunlap, Springfield; W. H. Mussey, Cincinnati; W. W. Dawson, Cincinnati; J. W. Hamilton, Columbus; H. J. Herrick, Cleveland; W. J. Scott, Cleveland; R. S. Gilchrist, DeGraff; S. W. Fuller, Bellefontaine; A. Hurd, Findlay; C. C. Hildreth, Zanesville; J. H. Clark, Mechanicsburg; T. A. Reamy, Cincinnati; P. S. Conner, Cincinnati; Cyrus Falconer, Hamilton; B. F. Hart, Marietta; A. S. Dandridge, Cincinnati; W. H. Philips, Kenton; Enoch Pearce, Steubenville; T. Morrow Beech, London; X. C. Scott, Cleveland; J. W. Russell, Mt. Vernon; A. C. McLaughlin, Tremont City; W. T. Ridenour, Toledo; S. S. Thorn, Toledo; John Bennitt, Cleveland.

DELEGATES TO STATE MEDICAL SOCIETIES.

New York.—R. R. McIlvaine, New York City; J. W. Hamilton, Columbus.

Pennsylvania.—Roberts Bartholow, Cincinnati; D. W. Coble, Westerville; J. F. Baldwin, Columbus.

Kentucky.—J. H. Buckner, Cincinnati; T. A. Reamy, Cincinnati; W. W. Dawson, Cincinnati.

Indiana.—R. L. Sweney, Marion; W. D. Scarff, Bellefontaine; W. H. Matchett, Greenville.

Michigan.—W. W. Jones, Toledo; A. Dunlap, Springfield; H. S. Conklin, Sidney.

West Virginia.—B. F. Hart, Marietta; J. T. Whittaker, Cincinnati; S. S. Scoville, Lebanon.

Society adjourned, to meet in Cleveland, June 15th, 1880, at 2 P. M.

J. F. BALDWIN, *Secretary.*

JESSE SNODGRASS, *Assistant Secretary.*

B. B. LEONARD, *President.*

LIST OF AUXILIARY SOCIETIES,

WITH DATE OF ADMISSION.

Academy of Medicine of Cincinnati 1875
Allen County Medical Society 1867
Ashland County Medical Society 1865
Ashtabula County Medical Society 1878
Athens County Medical Society 1866
Athens, Morgan and Washington Medical Ass'n . . 1855
Belmont County Medical Society 1851
Brown County Academy of Medicine 1877
Brown County Medical Society 1877
†Butler County Medical Society 1852
Central Ohio Medical Society 1869
Champaign County Medical Society 1853-1879
Cincinnati Medical Society 1875
Clarke County Medical Society 1849–1852–1877
Clermont Medical Association 1854
Cleveland Academy of Medicine 1870
*Clinton County Medical Society 1879
*Columbus Academy of Medicine 1879
Columbus Pathological Society 1877
*Cuyahoga County Medical Society 1879
*Darke County Medical Society 1879
Delamater Med. Ass'n of Norwalk and Vicinity 1859-1870
Delaware County Medical Society 1869
Delaware Medical Society 1854–1875
Delaware Medical Institute 1872
Drake Medical Society 1854
Erie County Medical Society 1850–1877
*Franklin County Medical Society 1879
Fulton County Medical Society 1870
Greene County Medical Society 1856
Hamilton County Medical Society 1849–1852
Hardin County Medical Society 1866
Highland County Medical Society 1877
*Hocking Valley Medical Society 1879
Holmes County Medical Society 1869

†Withdrew in 1868.
*See recommendation of Committee on Medical Societies, page 22.

Jefferson County Medical Society 1859
Knox County Medical Society 1863
Lancaster Medical Institute 1849
Lawrence County Medical Society 1877
*Licking County Medical Society 1879
Lebanon Medical Society 1849
Logan County Medical Society 1875–1877
*Mahoning County Medical Society 1879
Marion County Medical Society 1879
Miami Valley Medical Society 1879
Medico-Chirurgical Society of N. E. Ohio 1876
Medina County Medical Lyceum 1858
Medical Ass. of Adams, Brown and Clermont Cos. . 1850
Meigs County Medical Association 1850
Miami County Medico-Chirurgical Society 1851
Montgomery County Medical Society 1851
Morrow County Medical Society 1878
North-Eastern Ohio Medical Association 1870
North-Western Ohio Medical Association 1869
Pickaway County Medical Society 1856–1878
Portage County Medical Society 1869
Preble County Medical Society 1849
Putnam Medical Society 1877
Richland County Medical and Surgical Society . . . 1850
Ross County Medical Society 1876
Scioto County Medical Society 1868
Seneca County Medical Society 1854–1879
Shelby County Medical Society 1852
Stark County Medical Society 1850–1852
Stillwater Medical Society 1873
Summit County Medical Society 1866
Toledo Medical Association 1857
Trumbull County Medical Society 1868
Tuscarawas County Medical Society 1851
*Union Medical Association 1879
Union Medical Society of Alliance 1864
Wayne County Medical Association 1850
Wood County Medical Society 1877
*Zanesville Academy of Medicine 1879

*See recommendation of Committee on Medical Societies, page 22.

BIOGRAPHICAL SKETCH OF B. B. LEONARD,

PRESIDENT OHIO STATE MEDICAL SOCIETY.

Doctor B. B. Leonard was born on the 8th day of June, 1825, in Champaign county, Ohio. Studied his profession with Dr. S. W. Fuller, and graduated in the class of 1853 at the Medical College of Ohio. He became a member of the Ohio State Medical Society in the year 1854, and of the American Medical Association in 1855. He was elected one of the Vice Presidents of the Ohio State Medical Society in 1867, and its President in 1878.

Doctor Leonard is well known to the members of the medical profession of this state, having served for the last seven years as committee on Obituaries. He has contributed frequently to the Medical Journals of the state. In north-western Ohio he has obtained an enviable reputation for his skill as a lithotomist, having performed that operation perhaps more frequently than any other man in his section of the state.

OHIO STATE MEDICAL SOCIETY.

At the Seventeenth Annual Session of the Ohio State Medical Society the following resolution was adopted:

Resolved, That the publication of any address, prize essay, or other paper by this Society is no evidence of its endorsement of the sentiments therein contained.

"D."

PLAN FOR THE FORMATION OF AUXILIARY SOCIETIES.

"Associations desiring to become auxiliary, must furnish to the Committee on Medical Societies, a copy of their constitution and by-laws, and a list of the names of their members.

"The committee will report thereon, a majority vote of the Society admitting as members the President and Secretary, *ex-officio*, together with one delegate for every ten members the proposed auxiliary society may consist of.

"Delegates will present to the State Medical Society, such papers, &c., &c., as the association they represent may select, copies of which they will deposit with the Committee on Publication.

"In questions of a general nature affecting the profession of the state, should the yeas and nays be demanded, the delegates, on producing the individual authority of each, may vote by proxy for absent members of the State Medical Society, who are also members of the same association with the delegates.

"Auxiliary Societies will, so far as possible, contribute to the furtherance of the objects of the State Medical Society, by selecting from their own archives such original papers, essays, reports, and especially statistics, as they may deem of sufficient value, on every subject connected with medical science."

From *Transactions* of 1850.

STATE GOVERNMENT,

AND THE

MEDICAL ORGANIZATION.

ANNUAL ADDRESS OF THE RETIRING PRESIDENT,

B. B. LEONARD, M. D.,

WEST LIBERTY.

STATE GOVERNMENT,

AND THE

MEDICAL ORGANIZATION.

ANNUAL ADDRESS OF THE RETIRING PRESIDENT,
B. B. LEONARD, WEST LIBERTY.

Gentlemen of the Ohio State Medical Society:

In conformity with the custom of my predecessors for the third of a century, it now remains for me to present the annual retiring address, and I submit a few thoughts on:—

STATE GOVERNMENT AND THE MEDICAL ORGANIZATION.

I trust you will not consider me too ambitious, in selecting so important a subject of which to treat in a short discourse, when volumes from abler minds might fail to do it justice. The debt owed by humanity to the medical profession cannot be over-estimated, and by that term I mean the body of learned men, who, for thousands of years, have, with disinterested zeal and true philosophy—which means in its higher definitions, a love of learning for the sake of humanity itself, given themselves to the study of disease, its cause and cure.

The fact that it is, and ever has been, an organization, first challenges attention. Much has been done in the progress of humanity through separate and individual effort, when at rare intervals genius, struggling against heavy odds, and disheartening obstacles, has made great discoveries and given valuable inventions, but true progress owes its success to combined and continued efforts. In no instance was this more thoroughly illustrated than when our Savior appeared on earth, as the great teacher of the igno-

rant, and the healer of body and soul. His brief hours on earth were given to the organization of the church, that might continue, through all time, the work he began for the human race. He gave the form of public initiation, at a time when such initiation meant great bodily suffering, if not death, to the follower. He created the school and endowed the professors, inspiring them with the true spirit of progress, and the teaching itself their only reward.

I do not arrogate too much to our learned body, when I claim that, next to the church, our organization is, and has been, and ever must be, the most important. The student of holy writ will observe that, next to the cure of the soul, Christ's work was given to the healing of the sick; recognizing the grand importance of our calling. To comfort the afflicted, to help the poor, to teach the ignorant, epitomize His sacred mission. Imitating this example, we walk on earth in darkness and shadows; and while our moments of rest and pleasure are few, our hours of care and sadness are many.

The weakness and credulity of men are such that they often prefer the mountebank or cunning deceiver to the learned physician, and give as much credit to the charlatan as to the honest and educated devotee of our calling. Is it not enough to call up the question asked by Israel's wisest king? "If it befall to me as befalleth fools, why should I labor to become more wise?" The journals of the country to-day, are in a measure sustained by nostrums advertised by ignorant pretenders, and at intervals we are called upon to note the immense wealth of some one more impudent, hardened or fortunate than the others, who has grown rich on the cruel disappointments of the afflicted.

If we could demonstrate the close connection that exists between sanitary science and civilization, we could show how dependent Christianity is upon medicine in its wider and higher significance, which includes not only the attempted cure of disease, but also a study of its cause and of success in its prevention. It is but saying that high development of both the moral and physical nature depends on health in both. Civilization has worked its way from an almost brutal condition—nay, worse than brutal, for animals devoid of intelligence are preserved through an instinct that teaches purity of food, air, and cleanliness, denied the superior being. Through the slow

rot of centuries, from the very accumulation of decay, the tree of knowledge grew into the tree of life, and a history of how learning groped with its lanterns, until science came, to aid and direct, is a history of our learned profession—a record of the oldest organization known to humanity.

Did it ever strike you, gentlemen, that Christ's mission was delayed until humanity was fitted to receive His teachings, and that His blessed mission was but a part of a vast plan that dates its beginning far back in the prehistoric ages, when humanity first began its struggle with disease and death, to make the earth habitable? And why did He find an organization necessary? Although we speak of the human race as one body, it is really made up of atoms that pass away, how rapidly, the brief duration of earth-life tells us. To continue that life into another life, to unite the frail, fleeting atoms in one mighty and immortal whole, is what is meant by organization. Of this sort is our grand old school of medicine. It has but one initiation, and that is zeal; but one degree, and that is knowledge; and but one duty, and that is to give freely to the school all that industry and intelligence have gained. Next to government it is the oldest, next to the church it is of the greatest importance. Those orders of holy men, who, obeying the teachings of the great exampler, go forth, taking no thought of what they shall eat, or wear, or under what shelter, if any, they shall find rest, bow to poverty,—all they gain they give to the church. Of such is our profession: all that we gain by and through our ceaseless investigations, we give freely to humanity; all that we gain belongs to the race of man, and each one, living to labor, dies, bequeathing all that he has accumulated through observation, investigation, and experience, to the loved old school, as an entailed estate for the benefit of those who shall come as successors. Let us remember that it is our duty to leave no stain on the profession, and no shame on its parts.

It is a vulgar but popular error that ascribes to us only the attempt to cure, and yet lower is the belief that the larger part of remedy is to be found in drugs. If this were all of our mission we might well disband and leave the world to the mercy of the charlatan. The earth has never known but one physician who could cure all diseases,

and He conquered death itself. But, as an army organized to combat suffering, we find our best and most potent weapons in prevention. It is said "an ounce of prevention is worth a pound of cure." We know that prevention is of more value than that: — disease is death, and death is the dissolving of the bands that hold together the spiritual and physical being, and in this light what has been held as annihilation is, in fact, only life more intense and active than before the change that liberates both soul and body. The hand that holds this paper, for example, has for half a century kept its form, steadily changing its atoms, once, it is estimated, in less than seven years. Death intervenes, and by the hour, not the year, we see it change into other forms of life. Unless arrested in what we call its decay, in less than one seventh of seven years it has passed from sight altogether, leaving only for a longer period the bony structure upon which were built the nerves, muscles and nails of that delicate structure, the hand. Such change to a more active life, is what men call death. The mystery of it is found in the pain that precedes and accompanies dissolution. It seems strange that that which is our nature, fate and destiny, as much a part of us as sleep, rest or food, should be resisted as something that could be deferred or prevented, nor have we at all the evidence of casualty to be found in pain as if it had not been designed. It is not death that we are organized to combat, it is suffering. To quiet the way of life, give it ease and comfort until the delicate and intricate machine shall wear out, and ripe old age come to relieve the gathered years of their burden, is our mission and duty. And it is this self-assigned task that, through all ages, has made our profession conspicuous, that to-day, while I am speaking, finds our forces in all parts of the earth, not only in the great centres of civilization, where star-eyed science holds its light above the mysteries of disease and death, but in the most remote, from the poles, where reign in silence "The frozen winters of a thousand years," to the burning sun of the tropics, where fevers are nursed by unhealthy vegetation and fiery sands. And all the time, this grand army is investigating; and the gathered facts are being stored in libraries and museums for the benefit of the human race. I say to you, gentlemen, that it is our proud prerogative to be, and to have been, through all the past, the only organized

body, held together for any such purpose, known to any nation or people. We are an army, and our base of supplies, from which we cannot sever and live, is — *truth!*

If we theorize, we theorize from facts well established. Gentlemen, we must prevent disease, for we cannot always cure, and in some cases never. God may forgive sins, but nature does not always do so, even after the most sincere repentance. Nature is quick to resent, and sure and impartial, almost to cruelty, in punishment. Cut into a sapling with a hatchet, and the woodman a hundred years after will find the wound, gnarled over and hid near the heart; and, left to itself, the huge oak, that fought for a century against the injury, will rot at its centre, while apparently healthy upon the outside, and fall at last from disease and death within. You killed the tree, when you wounded the sapling. What is true in the vegetable kingdom, is also true in our physical existence. We cannot always cure, but we can alleviate; for the punishment is pain and suffering, and we may repair, as well as we can, but the wrong done cannot be removed.

To give what our profession has done and accomplished, in the way of prevention of disease, would be to give the history of the human race. From its labors have come the great sanitary regulations that mean health, and by prevention. Before these labors, what plagues have disappeared, or ceased to be mysterious terrors! By the cultivation of sanitary science, and by its influence on practical medicine, we shall gain the knowledge that will enable us to assist the body, stricken with disease, to revert to a natural course that leads to health and prolonged life and comfort. The doctrine of absolute prevention is gaining a very exalted position in the medical mind, and faith in it indicates the existence of a high order of thought, and of broad views of life and health, of diseases and their external origin, and of death and its correct place in nature.

The lightning may come down from the clouds and lay a man prostrate. If the shock is slight, the man may recover; but if it is beyond the power of endurance, death is the result. The preventive art, which puts up the rods and wards off the shock, is the triumph of human skill; and may we not, with equal certainty, ward off the effects of many, or all, of those non-cognizable agents that spread terror, disease and death? Had the laws of health and

causes of disease been studied and cultivated before the great plague of London, as they are at the present, what a vast amount of disease and death would have been prevented by the consumption of those old rush floors, saturated, as they were, with the filth of many years use. Hosea, the prophet, expresses the fact where he says: "My people are destroyed for lack of knowledge." Let us look after *cause*, and seek for prevention. We are the only organized body that can claim such honor. In discovering the cause of disease, we, who are powerless in the presence of the dread enemy, can ward off his approach. Who will deny but that our own Dr. Minor, by quarantine and other sanitary regulation, did more for the people of Cincinnati, in the way of preventing the spread of yellow fever in that city, than all the medical men of the city could have done in the way of cure? I do not wish to undervalue the services of those noble members of our profession who, amid "the pestilence that walked in darkness, and the destruction that wasted at noon-day," yielded up their lives while rendering kind ministrations and professional skill to the sick and dying. Let their noble and humane example be fresh in our memories, and let it be inscribed on monuments, as well as on grateful hearts, that they were advocates and representatives of principles, and fell in the discharge of duty, self-imposed. It is then this higher duty, that, lifting our organization above mere medicine, makes it the advanced guard of civilization,—makes its work civilization itself, which gives us claims upon the support and protection of the government. We have made the earth not only habitable but enjoyable. We meet and labor for public good,—we compare views in regard to the best means to be applied in conquering the malaria of the country, and in rendering harmless the poisonous gases of concealed drains in towns and cities. We teach the citizen what to eat and drink, what to wear, and where he may breathe with safety. The sanitary laws of life, through our efforts, rank next to, or equal, the municipal and moral law.

As it is the duty of the Government to protect the weak against the strong and vicious, and by punishing crime to prevent its commission, so it is the duty of the Government to aid us and facilitate our labors; to protect us in the prosecution, and see that nothing is lost in the grand

results we accomplish. Our medical colleges are as much a part of our Government as our common schools. Our hospitals, museums, and libraries, are parts of the great political structure, that, based on the rights of the citizen, looks to the common good of all. In this claim we stand alone. We, seeking the cause, make the result secondary, for if we can discover the cause, we can do better than cure, we can prevent. Recognizing this fact, the higher civilization of Europe is known by the encouragement, protection, and respect paid our profession. There the medical colleges are organized and supported by the Government; hospitals, the result of centuries of experience, are known not only as a refuge for the sick, but as schools for the student, while the museums are of more value than the gathered product of high art in statuary and painting. Shall it be said that educated and enlightened America is behind Europe in the evidences of civilization? Shall it be said of us that we care less than they for health, and for that happiness which is so much dependent on health—for on that rests the higher development of the human species? I cannot believe this when I see all about us proofs in the demands made on our profession. In every board of health medical men form a conspicuous part. The entire legislation is marked, more or less, with the evidences of our labors of investigation. There is scarcely a day passes that some of us are not called upon in the higher tribunals to enlighten juries and assist judges and advocates along the intricate paths of justice. Here let me say, parenthetically, that at a late term of the Common Pleas Court, in the county in which I reside, Judge Porter—be it said to his praise and high sense of justice, recognizing the claims set up in the address of my predecessor, awarded an honorarium of two hundred and fifty dollars to an expert, in a case then on trial: the first fee ever allowed in Logan county for such services.

Standing upon this solid ground of science and common sense, is it not our right to demand of the government, not only protection, but development and encouragement? In this we have the monopoly, for here, as I have said, we stand alone. Other schools may claim competition with us in the way of cure:—*we* seek to discover the cause and origin of disease, and deal in the prevention. Our medical colleges should not only be chartered by the state, but

guarded by the state, and protected in every measure that will tend to the advancement of a thorough medical education. It is of vital importance to the people of the commonwealth that we be given entire control of the hospitals, and that we have museums established by law, and sustained by the state, and given us for the better preservation of our evidences of research and investigation. The charitable institutions, such as asylums for the insane, the imbecile and idiotic, those for the deaf and dumb and the blind, *are* ours. We want it understood that they *are ours*, not from tradition, practice or favor, but that from necessity they fall to our control; for there is no other class of men capable of that control. How defective legislation is, because of the lack of this comprehensive and just view, is illustrated in the painful event which occurred in Cincinnati about a year ago, caused by the sudden and unexpected invasion of a dissecting room.

If there be any branch of our learned profession that requires a more thorough knowledge of anatomy than another, it is that of surgery; it is so regarded by law, it is so held in public estimation, it is so in fact. The severest punishment is awarded the surgeon who fails through ignorance or lack of skill in his operations. When war comes upon us, a very important part of the service, is that organized under the Surgeon General. Incompetent officers may lead and mangle humanity, and escape punishment, but incompetent surgeons shall not follow and finish the work. One may question the skill of the General, no one questions the skill of the surgeon; it is taken for granted. There is a field into which the charlatan cannot go and live. Woe awaits the inhuman butcher, who, without knowledge, hack the suffering body of the humblest soldier.

This is the same in civil life in time of peace. There may be some doubt in a charge of malpractice made against a physician: there is none whatever in a case against a surgeon. The task before such is considered as clear as that of an architect, who seeks to repair the injury brought about by violence or decay in a building, and for such he is held to strict account. I need not ask you, gentlemen, nor the public, how it is that such scientific knowledge is obtained: we all know that it is through the dissection of the dead. Among the poor earthly remains of the departed, calm, cool, searching science walks, mapping off the

human body and getting well acquainted with the delicate and intricate construction. For this is the dessecting room of every college, chartered by the government, provided for the study; and yet how contradictory the law. The surgeon is told that if he fail to take advantage of these facilities, he shall be punished by public degradation, deprived of his earthly possessions, and shall find a home in prison. On the same statute books, we find it virtually provided that if he does take advantage of these facilities, and it can be proven, that the same prison shall be his reward. And so it is possible to have the ignorant quack, who failed in practice, meet the earnest and enlightened man who sought to avoid failure through instruction. That the common sense of the community has arrived at sufficient knowledge to judge and determine this almost contradiction, the late event to which I have referred is sufficient proof. The practice of dissection could not have been put to a stronger test. It was not only strangely dramatic, but extremely horrible. A gentleman of high social standing, the grand-son of an ex-President of the United States, about whose name clusters much of our past honorable history, while in search of the body of a friend, came suddenly upon that of his beloved father. He found that body suspended by the neck, in a dark, loathsome chute of a dissecting room, and in the agony of his grief and indignation, he appealed to the public and to the courts. The time was, gentlemen, when that appeal would have been responded to by violence. We are yet young enough to remember the period when the learned and eminent men who conduct and control that institution of learning, would have had to fly for their lives, and the building itself would have been given to the torch of a Titus, and our good old Alma Mater, like the temple of Solomon, would have been torn to the ground and "Not one stone left upon another." We may congratulate ourselves that the masses have been educated to a point above and beyond the superstition that would have dictated and approved such violence. A shudder ran through the community, when the terrible and dramatic event came to be known, but reason and intelligence held sway. The people paused to think that dissecting was a necessity. They remembered that the dissecting room was known to all and every citizen who thought of it. All knew that

on those tables were the bodies of somebody's father, brother or son, and if they could be kept for the poor, what justice was there in growing indignant because they were also used for the rich or those in high station? The horror they saw was in the discovery. It was as if a son had been forced to witness some delicate and dangerous surgical operation on a beloved father while yet alive. They remembered that the sufferer—the man who appealed to the public in his wrath and agony—had himself been a student in a dissecting room, as had been his father and grandfather, and pursued his studies, unmindful of the fact that they called for the very outrages of which he now complains. Above all, they saw that it was their own superstition and absurd legislation that gave life to the horror It was not that the dead and decaying remains were taken from the earth and subjected to the knife of the operator, but that the body found was that of an honored son of an honored Ex-President of the United States, and that this body was hanging by the neck. Had it been the body of a pauper, taken from Potter's field, the horror would have been less, and less it would have been, undoubtedly, had the remains been found upon the table and treated with the care and consideration which professors and students give their subjects.

The law is to blame—it prohibits the procuring of bodies, and so the necessary business is given to such a class as the law itself creates. Intelligent and reasonable legislation is necessary to correct this abuse. Dissecting should be authorized by law, and the necessary supply of subjects taken from convicts, and those who live and die at public expense.

How common are post mortem examinations getting to be. It is often the request of the dying, and the wish of surviving friends and relatives. And this because no insult, no indignity, is offered the dead. Why should not this treatment be extended to all? It is the midnight invasion of the cemetery, the robbing the grave, the hurried concealment, and the consequent abuse of the body, that awaken horror and disgust. The State owes it to our profession, owes it to humanity, and to itself, to amend these laws and give us protection in our studies. We want that legislation based on intelligence, and not on superstition. We ask that the dissecting room be not

treated as the grave—something made to conceal, because horrible if exposed. Could the community that, selecting beautiful spots of earth, adorn them with flowers, streams, lakes, trees and costly monuments, and go there to meditate upon the virtues of those who sleep below—could they, I say, see through the dark, damp earth to the forms they love, could they witness the loathsome corruption through which earth returns to earth—and this is the destiny of us all—they would see less horror in the process of dissection. Is not the hand of the operator more cleanly than the maw of the worm? Is not science more respectful, tender and sacred, than the foul decay of the grave?

Strange as it may seem, gentlemen, much of the opposition given to the progress of our calling comes from the clergy—those who ought to be our friends and allies. Those whose grave duties look to a cure of the evils in the soul, ought to aid us who are seeking to alleviate the ills of the body. Many of these men, if not openly our enemies, are certainly not our friends. We are sorry that there is room to complain of a class for whose high calling and sacred duties I have the highest and most profound respect and admiration. Strange it is, that they, educated and enlightened as they are, should countenance and sustain irregularity in medicine. They fight, with the courage of veterans, any attempt at change in theology, or innovation in doctrine; but, so far as our high calling is concerned, they are the wildest, most credulous, and most reckless innovators and encouragers of innovation in the land. The saddest fact presented to the thoughtful philanthropist, is the inhuman manner in which the ignorant masses are robbed and treated by ignorant pretenders and patent nostrums. The great friends and supporters of these heartless creatures, that prey and fatten on the ills of humanity, are to be found in this class of clergymen. Without the countenance and support of these, the work of the charlatan would be greatly diminished. Every worthless and poisonous nostrum that has its day, and moves over the land like a scourge or blighting mildew, deceiving its thousands that it may enrich its inventor, has authorized certificates of clergymen, to its efficiency, realized through experience. While the more pretentious schools, based on wild theories, have their patients among

the clergy, and their strongest advocates in the pulpit. An eminent jurist once remarked that he never heard a divine, however eloquent, discourse, that he, the listener, did not long to put the pastor through a course of instruction on jurisprudence. So the physician of our good old school, feels a regret, whenever he comes in contact with a clergyman, that anatomy and physiology were not made a necessary part of a theological education, so far, at least, as is necessary to save them from becoming the tools of the cruelest cheats that afflict humanity.

We must not, however, while seeking to remove the mote from our brother's eye, neglect the beam that obstructs our own vision; and I cannot close this imperfect discourse without a frank acknowledgment of our own error, that will at least go far towards proving my sincerity. We blame the clergy for not being conversant with a part of our science; yet are we not open to the charge that we in turn have so little of the clergy in us? The tendency of the age, I am grieved to say, is to Materialism, and the tendency of our profession is said to be in the same direction. Of all men, they who go to make up the more enlightened of our own school should be the bitterest opponents of such an error. I do not say this from the promptings of mere religious conviction. I do not drag it in here from any sectarian or even moral impulse. In the great war between good and evil, in that dread struggle that pervades the universe, between sin and righteousness, between light and darkness, we may safely leave all to the organized forces of the church. But it is on our own account, on account of our great profession—our mighty school—on account of science itself, for which we labor, as an humble member of this illustrious body, I protest against this fatal tendency. The learned man who shuts his eyes to the phenomena of spiritual life, the physician who ceases to consult the moral wants of his patient, the student of sanitary laws who has no regard for those mysterious influences of that other life, which, reaching in, so strangely affects our earthly existence, are men who deny because they cannot entirely comprehend, and so shut out from themselves a wide field of learned investigation. A learned professor, who died some time ago, when found investigating, patiently and faithfully, the popular delusion called "Spiritualism," and when asked if he was

in search of spirits in a "rat-hole," said, "No, I am not in search of spirits, I do n't want spirits, I want facts—facts are the fingers of God. I was laughed at when I asserted that a message could be sent quick as thought along a common wire—now continents world-wide apart are *whispering*, one to the other, along that wire, and perhaps I may find something in this rat-hole, as you call it." To accept all and deny nothing, and investigate facts, leaving conclusions to take care of themselves, is our high duty and honored vocation, and so long as we are true to these and true to ourselves, we will be as successful in the future as we have been in the past, and remain an honored body and a blessing to mankind. United as the sea, yet separate as the land, let us encourage the widest liberty of opinion, and the most searching investigation. Basing our theories on facts, let us not become so wedded to theory as to forget that further research may change or destroy it.

One of our eminent surgeons quite startled a court, not long ago, when asked if a certain learned work on insanity was authority: He replied, "No, sir. We have no authority in our profession, we have investigations and facts, but every physician is left free to judge for himself." This is well, and it is wise.

There was a certain Grecian custom, in which a lighted torch, from the temple, was passed from hand to hand, until all the altars of the land were ablaze with light. So we pass the torch from hand to hand, that light may be spread throughout the earth. This is our honored profession, this our ancient school, this our high mission and duty, under the providence of the Almighty.

ON THE TREATMENT

OF THE

VARIOUS FORMS OF CONSUMPTION,

BY

ROBERTS BARTHOLOW, M.D., LL.D.,

PROFESSOR OF MATERIA MEDICA AND GENERAL THERAPEUTICS, IN THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA, ETC.

1879-7

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VARIOUS FORMS OF CONSUMPTION,

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In a discussion of the therapeutics of pulmonary consumption, it is necessary to have a well defined conception of the several forms of disease now included under this term. At least three forms or varieties of consumption are distinctly recognized:

Chronic catarrhal, or caseous pneumonia; chronic tuberculosis, with localization in the pulmonary parenchyma; fibroid phthisis, so-called, the initial lesion being bronchial, and the connective tissue affected subsequently.

Caseous pneumonia is an essentially inflammatory affection, in which the products of inflammation, accumulating in the alveoli, undergo a kind of degeneration, which, aptly enough, is called caseous. It is the catarrhal, and not the croupous or fibrinous inflammation, which assumes the form of a caseous degeneration, with ultimate destruction of the pulmonary tissues; but it is the catarrhal inflammation occurring in a peculiar type of constitution—the so-called scrofulous or strumous.

Chronic tuberculosis limited to the lung, strictly, can hardly be admitted to exist, and by the best authorities is not admitted. Chronic tuberculosis, with a local manifestation in the lung, chiefly, is eminently rational, and is confirmed by pathological observation and clinical experience. So long as caseous or cheesy material was confounded with

tubercle, it was not possible to separate these forms of phthisis, one from another, and hence the differences of opinion which still exist as to the occurrence of tubercular phthisis. When all cheesy material was supposed to be tubercular, every case of caseous pneumonia was supposed to be tubercular. The opposite extreme was reached, when the agency of the gray granulation was ignored or denied.

I do not consider the subject of acute miliary tuberculosis, for this is no more a pulmonary, than it is an intestinal, or than it is a cerebral malady.

The term, fibroid phthisis, supposes the existence of a fibroid degeneration of the lung, analogous to fibroid liver (cirrhosis) or fibroid kidney (chronic interstitial nephritis). According to this view, an irritative action is set up in the connective tissue, which undergoes hyperplasia; the proper tissue of the lung is encroached upon, and suffers nutritive changes. The initial lesions are rarely, if ever, in the connective tissue, but begin in the bronchial mucous membrane, and important alterations take place in the bronchi, before the peribronchial connective tissue is reached.

A perfectly routine treatment of consumption is not more common than it is illogical. In fact, there is no disease in which a careful differentiation of its several forms, better rewards the labor of the therapeutist. The differences in pathology, demand recognition in the treatment. The various stages in the development of each form, require a careful adaptation of the means to the conditions present. Whilst each variety of the disease phthisis, requires a special therapy, there are certain general therapeutical principles adapted to all.

Those therapeutical measures, adapted to the treatment of all forms, irrespective of particular states, are most conveniently considered first; and then will appropriately follow the discussion of special conditions.

I will not enter on the subject of prophylaxis—a very important topic—but proceed at once to the treatment of phthisis, actually begun.

As respects the treatment of phthisis in general, there are two subjects of the highest importance: 1. Climate. 2. The means used to promote the nutrition of the body. As volumes have been written on climate, it will not be

expected of me to treat the subject in detail, but only to develop certain principles which should govern our choice of an appropriate climate for individual cases. Usually in choosing a climate, two influences control: routine, fashion. It is only a matter of routine to advise a change of climate; the fashion of the time regulates the choice.

In the selection of a climate for pulmonary invalids, probably too little attention is given to the important generalization of Dr. Bowditch, that there is a constant ratio between the amount of water and the number of cases of consumption, in any given locality. This generalization, based on observations and experience in Massachusetts, has been confirmed and extended by corresponding investigations of English sanitarians. It has also been ascertained that certain localities, which had at one time a baleful notoriety in regard to the mortality from consumption, have become equally remarkable for freedom from the malady, after a suitable drainage system had been established. A climate characterized by large annual rain-fall, by a high dewpoint, and a locality in the neighborhood of lakes, ponds, and water courses, is, *ceteris paribus*, not suitable for the phthisical subject. An exception to this law exists in the case of residence on the ocean; but here other conditions, which quite overbalance the evils of excessive moisture, come into active operation.

Next to dryness as a remedy for the relief of phthisis, is elevation and consequent rarefaction of the atmosphere. Breathing rarefied air effects several important changes in the condition of the invalid: 1. It lessens intra-thoracic pressure, and therefore increases the breathing rate, and the rapidity of the pulmonary circulation. The effect of this is to increase the consumption of oxygen, and the excretion of carbonic acid, and remotely to improve the general nutrition. 2. Living in a rarefied air increases circulation and the amount of blood in the peripheral vessels. This has its disadvantage in the increased tendency to bronchial hemorrhage. The more rapid movement of blood in the arterioles, hastens tissue changes.

Uniformity is another important element in the constitution of a climate for pulmonary invalids. As so many cases of phthisis have their origin in attacks of bronchial catarrh, and are so constantly aggravated by the repetition of such attacks, it is highly important to surround them

with an atmosphere so uniform as to moisture and to temperature, as to obviate the dangers from this source. Uniformity, also, favors that life in the open air, which is so necessary to phthisical subjects, for whether able to exercise or not, and especially if not able to exercise, the need of an abundant supply of oxygen is more imperative. Without at all referring to localities, I hold that a climate suitable for consumptives, must possess these attributes;

It must be dry;

It must be at a considerable elevation;

It must be uniform.

It was a very suggestive and eminently practical observation of Hughes Bennett, that the initial lesions of phthisis, are stomachal. It is a matter of common observation, that in many cases of consumption, a failure of nutrition precedes, and often for a long time, the manifestations of disease in the lungs. That acute and conscientious observer, Mr. Jonathan Hutchinson, affirms that a form of dyspepsia precedes and accompanies phthisis—according to his statistics, almost universally. It is a chronic gastro-intestinal catarrh, and its special feature is, a positive distaste for, and an inability to digest, fats of all kinds. It must be wholly unnecessary to state that this dyspepsia should not be confounded with the gastro-intestinal disorder which comes on later and is due to tubercular deposit.

In the treatment of incipient phthisis, or indeed of phthisis at any stage, the state of the digestive organs should be a matter of prime consideration—for how can the nutrition of the body be maintained, and repair of local injuries effected, if the blood is not supplied with suitable material? Everybody is alive to the necessity of an active state of the nutritive functions, and hence the diagnosis of incipient phthisis is no sooner made out than the injunction of active feeding follows. The patient is advised to consume the hydrocarbons as freely as possible, and to take, it may be, a tablespoonful of cod-liver oil before each meal, and if he is utterly without appetite, likely enough, he is told to swallow such articles as he would a medicine. The result of this method of promoting the constructive metamorphosis is most unfortunate; the patient's appetite is further impaired, the food swallowed with so much disgust does not undergo suitable solution, con-

version, and absorption; the nutrition declines, and the local morbid process gains headway. It should always be kept in mind that it is not the quantity and character of the food swallowed, but the amount appropriated, which is so important to the welfare of the individual. The injunction of liberal alimentation may be repeated daily, and the patient may eat heroically pounds of hydro-carbons, but unless his digestion is equal to the task imposed, the injunctions and the obedience to them, are equally futile, and the body wastes progressively.

The first point to be considered then, is the condition of the digestive organs, and the measures necessary to promote their functions. The food must be reduced to the actual amount which can be disposed of; the stomach must be aided by the use of the mineral acids, by pepsin and lactopeptine; and the existing gastric catarrh must be relieved by appropriate means. Of remedies employed for this purpose, unquestionably arsenic stands first, partly on account of its remedial power in certain states of the stomach, and partly because of its influence over the nutrition of the lungs. Next to arsenic, and but little inferior to it, is silver, the oxide and nitrate—especially the former. Argyria need not be feared if the silver preparations are omitted for two weeks in every six, and purgatives are administered. Carbolic acid alone, and in combination with bismuth, is highly serviceable when there is vomiting, and the vomited matters contain sarcina. To arrest the reflex vomiting of phthisis—the vomiting which accompanies the act of coughing—there is no remedy so efficient as strychnia. If the organs of digestion are put in a condition for satisfactory work, then may be considered the question of forcing the nutrition by increasing the performance of the assimilative organs. Now then may cod-liver oil be given, and its digestion aided by the simultaneous admistration of ether, extract of malt, or alcohol in some form. Cod-liver oil should always be administered after meals, so that it may be digested and absorbed with the other foods of its class; for if taken alone and between meals, the appetite will be impaired, and the stomach kept at work when it should be resting. It is an error to give the oil in quantity greater than the digestive power, for the excess will not be utilized. From a tea- to a table-spoonful, is the quantity which can be disposed of—whether the greatest or least amount,

must be settled by an inspection of the evacuations. Unless cod-liver oil is digested and increases the appetite and body-weight, it is useless or injurious. That ether favors the solution and assimilation of the oil has been abundantly confirmed.

Is alcohol a food? is a vexed question, in respect to which we are no nearer a solution satisfactory to both parties. We are equally undecided as to its utility in phthisis, and I do not presume so far as to affirm that I can settle this important point. I can only offer concluslons to which considerable clinical experience has conducted me. Under the term alcohol, is included all the spirituous and vinous beverages, malt liquors, and extract of malt. These are useful in phthisis when they aid digestion and assimilation, and lower the temperature; they are hurtful when they disorder the stomach and increase the temperature. Quite irrespective of any theoretical considerations, they should be employed when they do good, and discontinued when they do harm. As they are used for the definite object of promoting the nutritive functions, as a rule, they should be taken after meals, and, as I conceive, it is sound practice to give them with cod liver oil when this agent is employed. We should discountenance a wide-spread belief that whisky is in some way antidotal, and that a cure must result if only a sufficient quantity is taken. Not only is it not possessed of such antidotal power, but alcoholic excess directly contributes to a form of degeneration of the pulmonary parenchyma. With regard to the quantity of spirit to be taken, no absolute rule can be laid down. There is, however, a well-defined principle to guide us: The quantity of spirit which increases the appetite and the digestive power, is the proper amount in each case, at the same time, attention being given to the habits, idiosyncrasies, and the condition of the digestive apparatus. Too large a quantity precipitates the pepsin from its solution in the gastric juice, and therefore suspends the production of peptones, when taken after meals. A large quantity taken on an empty stomach, is without influence on the digestion of foods, whilst it affects the mucous membrane injuriously, and after absorption attacks the hepatic cells. These reasons are conclusive in favor of a small quantity after each meal. If I were asked to state specif-

ically the amount to be prescribed for an adult, I should say, half an ounce after each meal.

Having thus, in the briefest manner, set forth the principles to guide us in the management of consumption, in respect to those therapeutical questions common to all forms, I must now pass to the consideration of particular states.

Given a case of caseous pneumonia, in which one or both lungs contain areas of caseous infiltration, the rational symptoms correspond to the physical signs—the systemic condition in harmony with the local morbid state—do we possess any direct means of acting on such deposits, to secure softening and extrusion without inflicting damage on the parenchyma of the lungs? I believe this question may be answered in the affirmative. Although it is usually considered impossible to make any impression on caseous deposits, except by improving the digestion and assimilation, I hold that we possess direct means of acting on these deposits, very slowly, but still efficiently. The salts of ammonia increase the alkalinity of the blood, prevent coagulation of fibrine, and possess a solvent power on exudations. Under their use, I have repeatedly observed the absorption and disappearance of caseous deposits. The success of this process is in inverse ratio to the extent and the age of the deposits. The smaller in extent and the more recent, the more amenable to the action of ammonia. A convenient mode of administration is to dissolve the carbonate of ammonia in solution of the acetate, and when the iodide is conjointly administered, to give the carbonate and the iodide together in an emulsion. The length of time during which the ammonia preparations are to be continued, will depend on the effect which they have on the local morbid process, and the forbearance of the digestive organs.

It is a great mistake, as I conceive, to regard the symptomatic fever of phthisis as hectic, always. During the stage of infiltration in caseous pneumonia, the fever present is of the remittent type: it is a modified inflammatory fever; during the stage of softening and extrusion the fever is intermittent: it is a septicemic fever. During the course of the former, the remedies appropriate are not adapted to the latter; hence the distinction I have made

is not only important in respect to scientific accuracy, but is of great moment in practice. During the inflammatory stage, it is of the greatest utility to employ means to lessen the exudation, and to favor its immediate liquefaction and extrusion. Under the former class are quinine, digitalis, aconite, ipecac, jaborandi, etc.; under the latter, ammonia, the alkalies in general, vapors of turpentine, eucalyptol, carbolate of iodine, etc. When the caseation is completed, there is a lull; the fever abates notably, or disappears; an improvement in the general condition occurs; the cough, it is true, continues, but it is much less harrassing, and there is, in fact, a delusive appearance of returning health. Presently moist sounds become audible over the area of deposit; fever comes on and is marked by these phenomena: a daily sensation of coldness, chilliness, or a distinct chill, during the morning hours, the temperature having been, just before, normal or sub-normal; then a fever of considerable severity; then a sweat. This is the fever of suppuration, or septicemic fever, and the term hectic does not adequately express its true character.

The point to which I wish especially to draw attention in discussing the treatment of the fever of phthisis, is the subject of rest. I have already, in a paper published in the *American Journal of the Medical Sciences*, a year ago, given the physiological reasons in favor of rest, and also submitted some clinical evidence in support of the theory. Increasing observation and experience satisfy me that rest during the state of fever is of the greatest importance. By rest I mean a condition of repose without exercise, except such muscular movements as are involved in merely dressing, going from one room to another, and eating, and not the absolute rest enjoined by Weir Mitchell in the treatment of the nervous state.

Rest lessens waste, and diminishes abnormal heat.

Exercise increases waste, and the temperature of the feverish state.

These propositions may be easily confirmed or refuted by observations on a patient with the so-called hectic fever. If they be true, then I affirm that during the existence of the feverish state in the two forms described above, phthisical patients should be instructed to rest—to refrain as much as possible from all muscular movements.

I wish it to be distinctly understood that I advise rest as a remedial measure, not for all cases of consumption, but for those cases in which the fever is pronounced. In the considerable proportion of cases of incipient phthisis, of fibroid lung, and of chronic cases with but slight elevation of temperature, I advise an out-door life, and exercise consistent with the stamina of the individual. Experience has abundantly shown that under these circumstances, an out-door life of some considerable exposure, indeed, is permanently beneficial.

How to relieve cough, is one the most troublesome questions with which we have to deal, in the treatment of phthisical cases. As cough prevents sleep, destroys rest at all times, and is exhausting, patients are clamorous in their demands for relief. The prescription of hydrobromic acid and spirit of chloroform, proposed by Fothergill, is rather disappointing. Gargling the throat with a solution of potassium bromide, allays the reflex excitability of the fauces, and thus lessens cough somewhat. But there are no efficient substitutes for the preparations of opium, and they must usually be prescribed when the cough is severe and persistent. The most generally useful of these is codia, which is about one-half the strength of morphia, but as we find it in the shops is somewhat stronger owing to adulteration with morphia. The superior virtues of codia as a remedy for cough, are these: it has a selective action on the pneumogastric nerve, allaying irritability of its end-organs: it is calmative and hypnotic, and as compared to morphia is less excitant and less nauseant. Codia may enter into extemporaneous combinations with atropia and other agents, just as morphia does. Apomorphia now and then succeeds admirably in allaying coughs, but it is useful in the role of nauseating expectorant, and is therefore not suitable in phthisical cases. When an irritable stomach coexists with a teasing cough, oxalate of cerium acts surprisingly well. On the other hand, as I have already pointed out, for the arrest of the reflex vomiting of phthisis which accompanies the cough, there is no remedy comparable to strychnia. When there is profuse expectoration rather fetid in character (bronchiectasis) and, indeed, in ordinary cases with free expectoration, carbolic acid is often very beneficial. It may be given in cherry-laurel water, in the dose of half a grain, three times

a day. Besides its influence over cough in these cases, carbolic acid reduces the abnormal temperature, checks the sweating, and improves the bodily condition in general. In the more chronic cases of phthisis, with a less range of daily temperature, and scanty expectoration, iodide of ammonium is especially effective. It is useful to combine arsenic with it, or it may be given in a mixture with wine of tar.

The last topic, to confine this paper within the legal length, is the discussion of the treatment of the sweats. It need hardly be stated to this body that the sweats of consumption exercise an unfavorable influence over the progress of these cases. Of all the remedies hitherto proposed for the relief of this condition, atropia is entitled to the first place. It may prove, however, that duboisia, its analogue, is more efficient, for besides its power to arrest the sweating, it has more decided calmative and hypnotic properties than atropia. The dryness produced by atropia renders the cough harsh, dry, and teasing, so that some patients are extremely distressed. This unpleasant effect of atropia on the cough may be obviated, in part, by combination with codia or morphia. When the cough is severe, and there are profuse night-sweats, and reflex vomiting is excited by coughing, I combine, in one prescription, agents for the simultaneous relief of these symptoms, viz.: Codia, or morphia sulphate, atropia sulphate, and strychnia sulphate. Such are the differences in the degree of effect produced by atropia, that no absolute rule as to dosage can be laid down. It is prudent to begin with a comparatively small dose, say 1-120 of a grain, and increase the quantity according to the effects; but it is rarely necessary to give so large a dose as the 1-60 of a grain. The amount necessary to stop the sweating is the dose required. It is far better, according to my experience, to give two or three small doses during the twenty-four hours, than to administer the whole amount required at one dose. This plan has not only the advantage that the sweating is more perfectly controlled, but also, what is more important, a more sustained influence on the nutrition of the lungs is thereby maintained. This leads me to remark that the utility of atropia, as a remedial agent in consumption, is not confined to its anhydrotic power. It possesses the more important property of influencing the nerves which

have to do with the nutritive functions—in other words, the trophic system of the lungs. It is this property, doubtless, which renders the use of atropia so effective in many cases of caseous pneumonia, before the process of softening and extrusion has begun.

I have been repeatedly asked by patients and others, if the long-continued use of atropia exercised an injurious influence on the health of those taking it. My experience is, decidedly, that no permanent ill-effects have been produced in any case. One consumptive has taken atropia, or some form of belladonna, during five years, and is now apparently well; another has taken it continuously for two years, with the same fortunate result, and many more have taken it for various periods, and no injury, only the most temporary inconvenience can be referred to it, in any case. Even when an idiosyncrasy to its use is found to exist, so that the smallest quantity produces great discomfort, no permanent bad effects have occurred from it under my observation.

Treated according to the plan which I have just briefly, far too briefly, sketched, a considerable proportion of cases of phthisis are, if not cured, at least so far improved as to live out the expectancy of their lives; and many are cured, in the sense that morbid action ceases in the lungs, permanently.

THE PRESERVATION

OF

GOOD EYE SIGHT,

AND THE

USE OF SPECTACLES,

BY

J. H. BUCKNER, M. D., CINCINNATI.

OPHTHALMIC AND AURAL SURGEON TO ST. MARY'S HOSPITAL,
AND SURGEON TO CINCINNATI EYE, EAR AND
THROAT FREE DISPENSARY.

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I have hesitated to bring before this learned body, matters connected with the subject of this paper, many of which are so familiar to eye specialists, that it may seem an unnecessary labor to rehearse them. But I have been stimulated to do so by the expression of an interest in the subject by some of my medical friends, and also by the reflection that in the division of medical research, the busy practitioner has but little time to devote to a department which has for many years been handed over in a great measure to specialists.

With the desire to occupy as little of your valuable time as possible, I shall limit my paper to a brief review of the most practical and important facts connected with the subject.

A medical man who has had but little experience in the treatment of diseased eyes, would be naturally surprised, if he visited one of the large eye clinics of New York, at the great number of people who, so far as outward appearances go, have good vision but are really blind, or partially so, and it may seem to some that the statement, that a perfect eye is an exception, and that the majority of people, both young and old, have defective sight in one —

both eyes, borders upon exaggeration. I believe the statement nevertheless to be true. The question naturally arises as to the cause of so large a number of imperfect eyes, and whether there is an adequate remedy for so great an evil. The first proposition may be explained by the statement of a fact well known to oculists, that a very large proportion of mankind have eyes that are more or less defective in shape, to which fact is to be attributed the large amount of errors of refraction, necessitating, even in the young, the use of glasses. The second proposition involves, first, the question of heredity and marriage, and secondly, an investigation into the proportion of congenital and acquired defects.

The evidences of the important influence of heredity in transmitting the physical infirmities of parents to their children, are too numerous and too familiar to us all to require an elaboration of the argument. Within my observation have come many families in which the parents, one or both, and several children have either far or near sight; confirming to my mind the correctness of the opinion of eminent oculists, that the larger proportion of those errors of refraction are congenital. It therefore becomes an important factor in the selection of a life companion. That this question does not acquire the importance which it should, is in some measure due to the neglect of parents and public educators to bring it before the young. In fact, the mere allusion to such a subject by a teacher to a class of scholars, would, in the present condition of society, be regarded by many as indelicate and calculated to excite discussions, demoralizing rather than elevating to the minds of the young of both sexes. When so little attention is given to grave physical infirmities in the selection of husband and wife, it may naturally appear to a great many persons that the subject is carried to the verge of absurdity, when the refractive condition of a young person's eyes should be considered a reasonable bar to the union of a couple otherwise well suited to each other. Although I am fully aware that any one who should advocate the propriety of such a selection, would place himself as a target for innumerable shafts of harmless ridicule, nevertheless, I am decidedly of the opinion that two young people, both subjects of myopia, or hypermetropia, of *high degree*, commit an error but little short of a crime in inflict-

ing upon their probable offspring the calamity of partial or defective vision. Hypermetropia is generally attributed to an arrest in the development of the globe, by which its symmetry, as a perfect dioptric apparatus, is destroyed. Imperfect or faulty nutrition may have an important influence in producing this condition, but the number of hypermetropes who have not, so far as their hygienic surroundings could indicate, been subjected to malnutrition, point strongly to an hereditary transmission of the affection. We have not the data to state with accuracy how far the asymmetry of the eye can be carried in this direction, by the marriage of hypermetropes, but it is safe to assume from analogy that the malformation would increase progressively from this cause. In myopia, we have not so much an arrest of development as an overdevelopment in one direction. The hypermetropic eye is not only a flat eye, i. e. too short in its antero-posterior diameter, but frequently also is small in comparison with the normal, as well as with the myopic eye. Myopes, on the contrary, may often be detected by the prominent and rather large appearance of the eyeballs. I have, however, met with several exceptions to this rule, in which, owing probably to an excessive amount of adipose tissue back of the globe, the eyes of the individual were particularly prominent and apparently more than normally elongated in the antero-posterior diameter, but upon examination I found them really to be hypermetropic.

In opposition to the now well established hereditary predisposition, as a cause of hypermetropia, I may state that Von Jager, one of the oldest and most eminent of European oculists, found by ophthalmoscopic examination, "that the eyes of most newly born children are, on paralysis of accommodation, moderately myopic, but soon, on further development, these lose myopia, and in the first years of life mostly become emmetropic. The great difference in the form of the eyes does not occur until a later period."* There were, however, some exceptions, about five per cent. having normal refraction, and seventeen per cent. having hypermetropic eyes. Donders says that in the fifth and sixth, and sometimes in the fourth year, he has demonstrated considerable degrees of hypermetropia, and has not observed these to disappear at a later period.

*Donders upon Refraction and Accommodation.

The evidence of hereditary transmission of myopia, is even greater than that of hypermetropia, the number of cases of near sight, in the same family where one or both parents are also myopic, being of so common occurrence as to be familiar to us all. This condition is also more easily and more frequently acquired than far sight. The social condition has also an important influence upon the development of myopia, the wealthy and cultivated being much more frequently the subjects of it, than the poor and illiterate. People who live in cities are also more liable to myopia, and country people to hypermetropia. As in other cases, there are many exceptions to the rule.

In some families who live in the country, myopia predominates, and the eyes of some sailors, who have been accustomed to training the eyes upon distance, have been found to be slightly near-sighted. In what proportion these errors of refraction exist, independent of congenital malformation, it is difficult to determine.

We must, in the consideration of hypermetropia, exclude those cases of far sight which are the result of senile changes in the crystalline lens, called presbyopia, since the latter condition may be associated in the same eye with either myopia or hypermetropia.

The investigation of Dr. Cohn, in Silesia, upon the eyes of school children, led him to the conclusion that improperly constructed desks, and imperfect light, were the chief causes of the defective sight among the ten thousand under examination. The low desks, so commonly found in our schools, are undoubtedly injurious to the eyes of children, as they favor a stooping position, an unfortunate habit to which the young are especially liable, a position which favors congestion of the coats of the eye-balls, sometimes inducing myopia and always greatly aggravating and increasing the disease in congenital cases. More care is necessary in arranging children at desks suitable to their respective ages, and they should always be placed at desks sufficiently high to keep the body erect.

A proper regulation of the light is also an important means of preserving the eyesight. In the construction of school-houses, particularly throughout the country and in small towns, too little attention is paid to the arrangement of the windows, with reference to light. When there is no obstacle on account of space and surrounding buildings,

the windows should face the north and south, so that the children may not be subjected to the strong rays of the sunlight, shining directly into their eyes, or reflected from the printed page. The desks should be so arranged as to place the children with their backs to the light, and in the proper arrangement of blinds and shutters, to modify its intensity. Sunlight, reflected from the book into the eyes of school children, may, in a short time, impair, by over-stimulation, the sensitive function of the retina, thereby laying the foundation for serious, and often incurable, disease. In large cities, a portion of the pupils are, owing to their situation, often compelled to study in a dim light, thus causing a strain upon the accommodation of the eyes, inducing congestion of some of the coats of the ball. In brief, the evils enumerated may cause congenital far and near sight to become progressive, and undoubtedly induce myopia in eyes that might otherwise have remained in a healthy condition.

It is now well understood by oculists that the majority of cases of so-called weak eyes among children, are the result either of myopia, or hypermetropia. The relief of the former was more readily understood, and suitable concave glasses were recommended by the physicians, but even among eye specialists, many cases of weak eyes, called asthenopia, the result of a slight flatness of the eye-ball, were thought to be the result of enfeebled powers of accommodation. This notion was the more readily entertained, since such cases often occur in feeble and delicate children, and as the sequence of exhausting fevers or sickness, producing a weakness of all the muscles of the eye-ball, and sometimes paresis of the ciliary muscles, which control accommodation. The causes just enumerated are, in fact, one source of asthenopia, since the affection is always associated with either a want of energy or fatigue of the accommodative muscle, and is accompanied by a tired and aching sensation upon comparatively light use of the eyes in reading or other fine work.. The more common cause of this muscular exhaustion was not understood by the older authors upon ophthalmology, until Prof. Donders, in 1858, proved it to be due to a slight degree of hypermetropia, and that it could be relieved by suitable convex glasses.

Hypermetropia and Myopia, a cause of Squint: — Al-

though it has been many years since the cause of squint has been found to be due to far and near sight, and that it is often associated with, or a sequence of, muscular asthenopia, I am persuaded, from my conversation with medical men, that the importance of that fact, in a therapeutical point of view, is not appreciated or fully understood by the majority of general practitioners, and I trust the eye specialists present will bear with me if, in order to refresh your memories upon this subject, I find it necessary to reassert facts which are no longer *new* to them.

The popular opinion, even among medical men a few years back, was that squint was generally the result of imitation, or due to a foolish play among children; that this belief is also in some measure founded upon fact has been proved by the investigations of Dr. Cohn, and other specialists. Dr. Cohn, in his examination of several thousand school children, found forty-five cases of squint the cause of which he could not assign to far or near sight, or other complications, but which he finally traced to a play among the children, which consisted in holding the forefinger in front of the eyes and bringing it up to within two inches of the nose, then, removing the finger, they would strive to see which could longest keep the eyes turned in. A spasmodic contraction of the internal rectus muscle would sometimes terminate in a permanent contraction, producing convergent squint.

It is now well understood, however, that the majority of cases of convergent and divergent strabismus, are caused by hypermetropia and myopia, but the important fact that strabismus *may be prevented and sometimes relieved by the use of suitable glasses*, at an early period of its manifestation, should be more generally appreciated and understood by the public.

The opposition to the use of spectacles by the young, which, until within a few years, prevailed among medical men as well as the public, had its origin in a great degree in the teachings of the older authors upon ophthalmology. The progress made in the latter science in recent years has exploded the old dogma, founded upon incorrect hypotheses, and while in some localities fashion may produce occasional error in the other extreme, i. e., of wearing glasses where none are needed, it can not be controverted that thousands of eyes are annually by their

employment saved to useful vision which formerly would have been sacrificed to ignorance and prejudice.

The notion still prevails, however, to a great extent, that the vendors of spectacles are competent judges of the necessity for their employment, and for the selection of the proper glass required for any case presented to them. Even medical men will pick up, at the jewelry store, or purchase from the traveling pedler, spectacles without the proper test, or even reflection upon the subject, the only criterion being that, for the time, they see better than they did without them, or with the old pair. But as the knowledge of the necessity of a proper examination of every eye before it is fitted with a glass, and the fact that such examination requires both the skill of the optician and some acquaintance with the laws of optics, as well as the practical information of the physician, becomes more generally diffused, the trade in spectacles in illegitimate channels is rapidly falling off, and I trust, for the good of humanity and the preservation of good eye-sight, will soon be discontinued, and remembered only as a tradition to be classed in literature with that period in the progress of science that the stage coach occupies in mechanics.

How soon shall we begin to wear spectacles, and how frequently shall they be changed:—Prof. Donders says the opinion is rather general that we should refrain as long as possible from the use of convex glasses. But is it not folly to weary the eyes and the mind together, without any necessity, condemning ourselves to guess with much trouble, at the forms which we could see pretty well with glasses? He lays down the law, that, "*so soon as by diminution of accommodation, in ordinary work, the required accuracy of vision begins to fail, there is need of convex glasses. The test is, with weak glasses of* 1-80 *to* 1-40, *at the same distance as without glasses, the accuracy of vision is manifestly improved.*" Between forty-five and fifty years of age, the normal eye begins to feel uncomfortable if taxed with much fine work or night reading, and this is the first indication of the necessity of glasses. Those individuals who have been enabled to go over fifty years of age without the use of glasses, are either slightly near-sighted, or they abstain from night work, and as a rule avoid fine print. Where glasses are needed before the fortieth year, hypermetropia, or some anomaly of refraction, or other

complication, will be found to exist, although it may be so slight as not to have given trouble until near the time when persons ordinarily expect to wear glasses.

The necessity for a change of glasses depends so much upon the anomaly of refraction, or other trouble, for which they have been given, that no precise rule can be prescribed.

In the case of convex glasses, it will be safe to change them when they are found to be no longer comfortable, or do not afford as perfect vision, at the same distance, as when they were first worn.

Protecting spectacles, are of many varieties, suited to the fancy of the individual or the character of his work. For the purpose of protecting the eyes from dust or small particles of metal, plain colorless glasses should be worn. They should, however, be sufficiently large to serve the purpose for which they are intended, and not, as is often the case, so small as to be merely ornamental.

Colored glasses, worn for the protection of weak or sore eyes, from strong light, should be selected with care. Green glasses were at one time worn, because it was supposed that as the green grass and the green foliage of trees are so pleasant to the eye, particularly in the early spring, that color must necessarily be soothing to the eyes. This, however, is not found to be the case. While reflected rays of light from the green foliage of spring are agreeable, the green rays transmitted through dark green glasses are found to be irritating, rather than beneficial, to sensitive eyes.

"*Blue glasses*:"—The novel theory upon the subject of the influence of blue light as an agent for the cure of disease, promulgated by General Pleasanton, some three years ago, excited, for a time, a great sensation in the fashionable world. But, as we predicted at the time, it soon ran its race, and died a natural death. Light, as is well understood, exercises an important physiological influence upon animals, as well as plants. It has been ascertained, also, that the blue and red rays exercise, to a limited extent, a beneficial influence, in certain conditions of the nervous system, and it is certainly true that light transmitted through blue glass is far more agreeable to a sensitive retina than through green. Blue glass spectacles are, therefore, preferable to green, but even they should

not be worn without the advice of a competent physician, or oculist, since they are liable to render the healthy eye unnaturally sensitive to strong light. In the majority of cases, the London smoked glasses are better suited to weak or sore eyes, than either green or blue, since they do not change the light, but simply soften all its rays. Protecting glasses should not be worn within doors, or upon dark days, except in severe cases of photophobia, as by the increased dimness of the light which they produce, they increase the strain upon the accommodation.

DISCUSSION.

Dr. X. C. Scott said that London smoked glass, as found in the shops, has a tinge of yellow which is quite irritating to the eye. Care is therefore necessary in selecting, to get a neutral tint.

He doubted very much that myopia was ever hereditary. He thought it was generally acquired by bad light, by a faulty arrangement of school seats, or by straining the eyes. Astigmatism, on the contrary, was usually hereditary, or congenital, except where the result of operations.

Dr. Buckner thought the gentleman's ideas as to the heredity of astigmatism and non-heredity of myopia, were not consistent, since both affections are due to errors of refraction.

According to his observation, high degrees of myopia were always inherited. Thought he had the very best of authorities—as Donders—in favor of this view.

Dr. Scott wanted to know why the cases of myopia did not develop until the subjects were six or seven years of age, if the disease was hereditary. Staphyloma was never found at three or four years of age, but only at a later period; showing that the disease was a progressive one.

Dr. Buckner rose to reply, but was called to order.

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PROGRESS OF SURGERY.

[illegible]

S. F. FORBES, M. D., [illegible]

REPORT FROM THE SPECIAL COMMITTEE ON THE PROGRESS OF SURGERY.

—BY—

S. F. FORBES, M. D.,

TOLEDO.

Any resume of the surgery of the present day which does not take into account modern conservative surgery, would be faulty and imperfect.

Conservative surgery is progressive surgery. Where our fathers removed, we restore. The most substantial advancement of modern surgery, lies in this direction. The highest perfection of our art is to save, not to remove. The natural inclination, the speediest way out of our difficulties, is by ablation, the removal of a limb or organ. But while almost any one can remove, not even one can restore after removal. Therefore this lesson of conservative surgery cannot be too often repeated, nor too strongly impressed upon us. It should be an ever-abiding presence, to guide and with-hold the hand and knife of the operator. By a strict observance of the requirements of conservative surgery, we shall keep it, what it now is, the bright particular gem in the crown of modern surgery.

Again; by the recent rapid advancement of diagnosis and prognosis, the surgeon of the present day can anticipate results with a certainty formerly unknown. Where our fathers groped blindly, ignorantly, hoping that fortune would smile upon their efforts, the surgeon of to-day predicts with increasing accuracy the results of surgical procedures.

In anesthesia, whereby pain is prevented and shock lessened, in the Esmarch bandage, whereby waste from hemorrhage is avoided, and in the Lister dressings, whereby surgical fever and contamination of the blood and body are no longer feared, we have, it would seem, arrived nearly to the acme in surgery. Lacking only certain knowl-

edge of that unknown quantity, individual vital power, the science of surgery has attained near to that most desirable state, the position of one of the exact sciences; and we can confidently hope and predict, that the contributions of each succeeding year will bring us nearer and nearer to that long hoped-for goal.

I now present you a brief and imperfect summary of gleanings in the field of surgery during the past year.

ON CERTAIN CHRONIC ENLARGEMENTS OF THE SPLEEN.

Dr. Alfred L. Loomis, of the University of New York, recommends the entire removal of the spleen by an operation, or by an attempt to establish suppuration. In the latter method he would incise the spleen, put in a drainage tube and attempt to drain it away. These measures he thinks advisable, as every one of the class of cases spoken of is hopeless, so far as medical treatment goes, and ablation of this organ has, in some instances, proved successful. The operation has frequently been performed both in this country and Europe, but, as yet, with no very satisfactory results. *Hosp. Gazette*, April, 1878.

SPONTANEOUS AMPUTATION OF A GANGRENOUS LEG, AT THE KNEE JOINT, UNDER THE USE OF HOT WATER.

A case is reported by Dr. Frank Hamilton, of New York, where amputation by the knife was not permitted, but which occurred successfuly under the use of cotton saturated every twenty or thirty minutes with water at a temperature of 100° to 110° Fahr.

The plan certainly has merits, in cases where amputation by the knife may not be attempted, on account of uncertainty of results, and where the line of demarkation has not appeared, etc. *Hosp. Gazette*, Feb. 15, 1878.

LOCAL ARTIFICIAL ANEMIA AS A MEANS OF TREATING DISEASE OF THE EXTREMITIES.

Dr. B. Cohn reports three cases of acute and chronic inflammation in the extremities, treated by Esmarch's bandage. An acute phlegmon of the toe was arrested, a case

of acute inflammation of the fore-arm disappeared, and a case of white swelling of the knee joint in a child was satisfactorily treated. The bandage was applied from five to fifteen minutes at first, and in the chronic case was allowed to remain on from half to three quarters of an hour daily. *London Medical Record*, Dec. 1878.

INTRA-VENOUS INJECTION OF MILK, AS A SUBSTITUTE FOR TRANSFUSION OF BLOOD.

In a paper read before the New York Academy of Medicine, Dr. T. G. Thomas reports the successful use of intra-venous injections of milk in three cases, and strongly recommends it as a substitute for transfusion of blood. He employed it seven times, and from his experience arrives at the following conclusions:

1st. Injection of milk into the circulation is a perfectly feasible, safe and legitimate operation.

2d. None but healthy milk, drawn from the cow within a few minutes of its introduction, should be used. It should be tested, and if found acid should be made alkaline by the addition of carbonate of soda.

3d. A glass funnel, with a rubber tube and a suitable pipe attached, was better and safer than more elaborate apparatus. About eight ounces was the quantity used.

4th. Intra-venous injection of milk was an easier operation than transfusing blood.

5th. Intra-venous injection of milk, like that of blood, was commonly followed by a chill and rapid rise in temperature, but these symptoms soon subsided and were soon replaced by a great improvement in the general condition of the patient.

He would not limit lacteal injections to cases of hemorrhage, but recommended their use in certain cases of typhoid fever, pneumonia, cholera, etc.—*Hosp. Gazette*, May 9, 1878.

It was not the intention to get beyond the due province of this paper, in speaking of the injection of milk for surgical purposes, but Dr. Charles T. Hunter reports its use in four cases of disease where the results do not seem to be as gratifying as could be wished. He summarizes as follows: The first case was one of extreme anemia, with spinal irritability, and was greatly benefitted by the injec-

tions after all other means had failed. The second case, which he calls progressive organic anemia, was not benefitted any to speak of. After the first injection there was some improvement, but after the second operation alarming symptoms ensued. Indeed, he says, "There is little doubt in my mind, that the operation hastened the death of the patient." In the third case, one of typhoid fever of 56 days duration, with hemorrhage and great debility, the operation was made too late. The fourth case was quite similar; the patient being in a dying condition when the operation was attempted.—*Hosp. Gazette*, Nov. 1878.

From these reports it would seem that the operation is quite proper, and may be resorted to, after the usual means fail, in all cases of hemorrhage and great debility, where there is no general or organic disease, with much expectation of success. As it is much easier to perform, and more ready of adaptation, it will no doubt be generally used as a substitute for transfusion of blood.

NEW METHOD OF COMPRESSING THE ILIAC ARTERY IN AMPUTATION AT THE HIP JOINT.

A straight lever of wood (run smooth and round, out of the lathe), being introduced into the rectum until its end presses on the iliac artery, the outer end being raised by the hand, the perineal tissues acting as a fulcrum, pressure can be brought to bear on the artery until pulsation ceases. The operation (amputation at the hip joint) was performed at Westminster Hospital on a boy, with entire success.—*Brit. Med. Journal*, May 1878.

APHORISMS ON CANCER.

The distinguished Prof. Esmarch offers these suggestions on the treatment of desperate cases of cancer which are too far advanced to warrant the removal by the knife, and also to prevent recurrence after operations. He uses arsenic, both externally and internally. A powder consisting of one part each of arsenious acid and morphia sulphate, eight parts of calomel and forty-eight parts of gum-arabic, is sprinkled thickly over the ulcer every day. It exerts a powerful escharotic action, but is painless and at the same time destroys all offensive smell. Internally he gives

Fowler's solution in increasing doses. He also follows out Benke's recommendations in regard to diet; that is, forbids the use of all food containing albumen and phosphate of lime, and confines patients as far as posible to the hydro-carbons. He also observes that, owing to the difficulty of diagnosis between cancers and other tumors, he never extirpates a morbid growth without previous microscopical examination to determine its character. *Med. Record*, Sept. '78.

CHOLECYSTOTOMY—A NEW OPERATION.

Dr. Marion Sims has the credit of introducing a new operation for diseases of the liver which are hazardous to life, if not necessarily fatal. After aspirating a tumor of the liver, to the great relief of the patient, he resolved, when the distressing symptoms returned again, that he would open up the peritoneal cavity, evacuate the fluid, and make such further operative procedures as might then seem proper. Accordingly, an incision was made, three inches long, parallel with the linea alba, over the most prominent part of the tumor, about three inches to the right of the umbilicus. When the peritoneum was opened about three ounces of pinkish fluid escaped. Puncturing the tumor, about twenty-four ounces of fluid was withdrawn. The cyst having been emptied, it was drawn out through the wound. It was found to be the distended gall-bladder, from which sixty gall-stones were removed. It was then cleaned, a portion excised and the margins of the remainder sewed to the walls of the abdominal incision. Great relief was experienced by the patient for two or three days, but she soon grew worse again and died on the eighth day with symptoms of bile poisoning. At the autopsy there were no evidences of peritonitis, but the gall bladder contained sixteen sacculated gall stones, and the ducts of the liver were greatly dilated.

The lesson taught by this case, as summed up by the author, is: "In dropsy of the gall bladder, in hydatid tumors of the liver, in suspected abscess of the liver, and when gall stones are present, we should not wait until the patient's strength is exhausted, or until the blood becomes bile poisoned, producing hemorrhages; but we should make an early exploratory incision, ascertain the true na-

ture of the disease, and then carry out such surgical treatment as the necessities of the case may demand." *Brit. Med. Journal*, June, '78.

TREATMENT OF HEMORRHOIDS BY THE HYPODERMIC SYRINGE.

Dr. Andrews, of Chicago, who claims to be among the first to give this treatment to the notice of the profession, in a recent article (*Physician and Surgeon*, May, '79), reports three thousand three hundred cases, treated by over three hundred physicians, with the following results:

Deaths	9.
Embolism of the liver (suspected),	8.
Hemorrhage,	10.
Carbolic acid poisoning (recovered),	1.
Sloughing (generally, but not always, confined to piles),	23.
Abscess of the liver,	1.
Severe inflammation,	10.
Violent pain	83.
Stricture of the rectum	2.
Long sickness in bed, two weeks to six months	6.
Relapses	7.
Failed of cure of piles	11.
Sundry other accidents	13.
Total	183.

Various substances were used: chiefly carbolic acid, tincture of iodine, ergotine, various forms of iron, indeed, the list is too lengthy to enumerate. The dose injected varied in like manner, from a few drops to a syringeful. If the following rules be observed, Dr. Andrews thinks, the method will be less painful, and not more dangerous than any other:—

1st—Inject only internal piles.

2d—Use at first dilute solutions; the stronger when the weaker ones fail.

3d—Treat one pile at a time, allowing from four to ten days between operations.

4th—Inject from one to six drops, first smearing the

membrane with cosmoline to protect against the drippings. Inject slowly, and keep the pipe in place a few moments, that the fluid may become fixed in the tissues.

5th—Confine the patient to bed the first day, and subquently if any severe symptoms appear. Prohibit any but moderate exercise.

The strength of the solution used appears to have been from one-half to twenty or thirty per cent. Dr. Weirs, of New York, injected two series of cases, one with strong, the other with weak carbolized solutions, using in the latter only one part of carbolic acid to ten, twenty, or thirty, of the excipient. He found that the pain and the abscesses followed the stronger injections, but were escaped when weaker ones were employed.

DISLOCATION OF THE ACROMIAL END OF THE CLAVICLE, TREATED BY THE ELASTIC BANDAGE.

Dr. Bull reports two cases of this troublesome dislocation kept in place by the use of adhesive straps and rubber bandage. By lifting the elbow, reduction is easily effected. Two strips of adhesive plaster, under which is a compress of lint, cross the dislocation, and are secured on the front and posterior part of the chest. A flannel bandage is applied to the hand and forearm, and now a strip of elastic webbing, five feet long and one and one-half inches wide, is passed under the elbow, the ends drawn snugly over the compress, and the anterior one carried around the axilla of the sound side to join the other between the clavicles. The ends, and the loop about the elbow, are secured with strong pins. A circular turn about the chest, and a sling for the forearm and hand, complete the dressing.— *Med. Record*, June, 1878.

THE USE OF COMMON WARTS OF THE HAND IN SKIN GRAFTING.

Dr. Chas. Lale reports a case of gratifying success by this method after other means of cicatrization had failed. A severe burn from molten metal remaining unhealed for more than nine weeks, although all the usual means, as well as epithelial scrapings had been tried, the doctor re-

moved two large warts from the hand of the patient, near their bases, which he split into quarters, and these eight pieces he planted in the new granulations, about equal distances from one another, in little slits, so that they were entirely covered to the depth of about one line. The wound was now entirely covered by balsam of Peru ointment on lint, held *in situ* by adhesive straps for forty-eight hours. The wound was then dressed, when it was found that each graft was alive, and within three weeks the entire burn was covered by skin, increasing from these points.—*Medical Record*, September, 1878.

RECENT METHOD OF TREATMENT OF DISEASES OF JOINTS.

Aspiration, incision, insertion of a drainage tube, washing out the knee joint with an irritating solution, in chronic non-suppurative inflammation, are means now used. Dieulafoy has aspirated the knee joint over two hundred times, and states that the operation is a rational and efficient one, in proper cases, when properly performed. He uses a No. 2 needle, placing a rubber band around the articulation, leaving a space for the puncture. The point of election is the external cul-de-sac of the joint, on the level of the upper border of the patella. As soon as the fluid is evacuated, compression must be used. Cotton should then be wrapped around the limb, and a flannel bandage applied from the foot up. The bandage should be reapplied in twenty-four hours, when aspiration should be again performed if the fluid has again collected. The number of aspirations required varies greatly. Bloody effusions, following injury, usually require but one or two. Sero-fibrinous effusions require from one to six. Though in some cases the duration of treatment is long, still it is much shorter than under any other method. Incision and drainage of the knee joint are advised in chronic serous inflammation, in chronic disease where there is granulation and effusions without caries, in acute purulent affections with evident fluctuation, and in acute serous effusions, when the pain is so severe as to exhaust the patient. Incisions are to be made on both sides of the patella, and a drainage tube inserted. Before the tube is inserted, the joint should be washed out with a solution (2½ to 5 per cent.) of carbolic acid. In chronic cases, if there are sin-

uses and fetor, a solution of zinc (twelve per cent.) is used instead. The operation is to be done according to the strictest antiseptic precautions. In acute cases, the tube should be removed in three or four days, if the wound is sweet. If the secretion does not diminish quickly, the joint should be washed out again; but the tube should not be left in longer than ten days, for fear of irritating the cartilages. In chronic cases, the tube may be allowed to remain for twenty to thirty days.— *Boston Medical and Surgical Journal.*

OPERATIONS ON THE STOMACH AND INTESTINAL TUBE FOR DISEASE AND OBSTRUCTION.

Gastrostomy, enterostomy, laparotomy, enterotomy, and lumbar-colotomy, are all now recommended for obstructions of the bowels from disease and from mechanical causes. Hitherto, the sufferer from these obstructions has been left to fate and anodynes, whether his obstruction was sudden, as from invagination, or long-continued, from obstruction of the upper or lower end of the intestinal tube, from disease. In gastrostomy and enterostomy, we have reasonable hope of averting certain death from inanition, while operations on any portion of the tube, for removing the obstructions, whether within or without the canal, have been successfully performed. Enterotomy and lumbar-colotomy may be hopefully performed for obstructions of the lower portion of the intestinal canal, and many successful cases are reported. This great field, hitherto the dread of both surgeon and patient, has been fully entered and the next succeeding few years will doubtless give to the profession rules and guides which will enable us to enter upon these operations intelligently, and in many cases with complete success. One fact should be borne in mind: These operations should not be undertaken as a *dernier ressort*, but should be performed early enough to warrant success.

REUNION AND RESTORATION OF DIVIDED NERVES.

A case is reported of a successful operation for the cure of paralysis of nine months' duration, the result of a wound of the posterior part of the thigh from a scythe. On cut-

ting down on the affected part, the nerve (sciatic) was found to be divided, and its two ends firmly imbedded in cicatricial tissue, two inches apart. On the upper end was a large bulbous swelling, the lower appeared atrophied. Both were loosened, the bulb removed from the upper end, and both ends obliquely pared until fresh nerve tissue was exposed. The nerve was so much shortened that the divided ends could not be brought together until the knee was fully flexed, when the ends were carefully stitched with fine carbolized cat-gut, the wound closed, and the leg lashed to the thigh. Little by little sensation returned to the limb. At the end of five weeks the limb was gradually relaxed, inch by inch, until fully straight, when it was found that the restored sensibility remained. Slowly voluntary motion returned, and in three months the patient was discharged, cured. *Brit. Med. Journal*, Aug., '78.

EXTIRPATION OF THE LARYNX; ARTIFICIAL VOCAL APPARATUS.

Dr. Wagner (Berlin) reports a successful case of the entire removal of the larynx for cancer, and insertion of an artificial vocal apparatus with which the patient could speak quite distinctly. She could wear it, however, for a short time only, as, in consequence of the fauces being imperfectly shut off from the trachea, portions of food passed down, and interfered with the play of the metallic tongue. In future operations, he would not remove the epiglottis, the loss of which was undoubtedly the cause of this trouble. Dr. Wagner also showed the action of an artificial vocal apparatus on a girl aged eleven, who, at the age of seven, had an attack of diphtheria, which was followed by cicatricial closure of the trachea and complete destruction of the vocal chords. When she was admitted to the hospital, she wore a tracheal tube, and was quite voiceless. By means of laryngotomy, and the use of bougies, the larynx was made pervious. She was then supplied with an apparatus with which she could speak easily and distinctly. *London Med. Record*, June, '78.

TREATMENT OF HYDROCELE BY ELECTRICITY.

Two cases of hydrocele are reported treated by a single application of an electric needle for the space of one min-

ute. One of these cases was permanently cured, the other temporarily cured, the disease returning after ten months. In both instances the fluid disappeared in twenty-four hours, though none escaped by the wound made by the needle. Macario recommends this method in other kinds of cysts, especially ovarian cysts, and cites three cases that have been published as cured by this method.—*Practitioner*, May, 1878.

SUPRA-PUBIC LITHOTOMY.

The recent revival of this operation generally, and the occurrence, two months ago, of a successful case in the practice of Dr. George A. Collamore, of my own city (Toledo), together with the very gratifying statistics put forward as the result of these operations, seem to give it claim to notice here. In over five hundred cases, if I read the figures rightly, there were only thirteen deaths. In all these five hundred, there was protrusion of intestine in thirteen cases, with three deaths. Cutting the peritoneum, fourteen cases with four deaths, and general fatal peritonitis in six cases: total thirteen. These figures are simply wonderful. The operation is undoubtedly the simplest and easiest performed of any of the lithotomy operations. It may be summarized as follows: Wash out the bladder with a luke-warm solution of carbolic acid (one to two per cent.), then partly fill it with the same. An incision, either vertical in the *linea alba*, or parallel with the pubes, should now be made, the peritoneum sought for and lifted by an assistant, when an incision upon the point of a sound previously introduced into the bladder should be made and the point of the finger introduced, with which the calculi are turned out. When their extraction cannot be thus easily effected, the forceps should be used. The obstacles and dangers met with, in this simple procedure, are, difficulty of finding the peritoneum and liability to wound it, protrusion of intestines, escape of fluid from the bladder into the peritoneal cavity, peritonitis, and urinary infiltration. In view of the foregoing statistics, these difficulties do not seem frequent, or often formidable. As regards the after-treatment, whether the wound should be immediately sewed up or not, is still an open question. By some the closure of the bladder by catgut, and the external

wound with antiseptic silk, all under the Lister treatment, is fully advised. Of course catheterizing in such cases would be necessary. Other surgeons treat the wound as in other varieties of this operation.

ANESTHETICS.

Upon this hackneyed theme but one observation will be made, namely: that late experience with the nitrite of amyl tends to prove that it is useful in overcoming chloroform narcosis, whether the patient be suffering from syncope or asphyxia. These two opposite conditions of the system induced by chloroform are both remedied, it is claimed, by this drug. Eight cases are reported, all successfully treated by the amyl.—*Med. Record*, July, '78.

ANTI-SEPTIC SURGERY.

Any resume of modern surgery which does not contain some allusion to anti-septic surgery, would be considered most lame and impotent. Be assured, however, that you will not be wearied with any lengthy remarks on this subject. Surgical opinion is now on the retrograde course as to the value of this treatment in all cases. For amputation, and many other operations in healthy localities in the country, Mr. Lister's dressing can be dispensed with, and yet equally good results be obtained. Strict attention to cleanliness and sanitary regulations, with the proper performance of the operation, and the proper dressing of the wound, such as perfectly healthy tissues in the stump, waiting until all oozing of blood is stopped, and then exact and perfect coaptation of flaps, all through their surfaces, and the most perfect rest, will, in healthy localities in the country, be followed by results entirely satisfactory, and the expensive and extensive paraphernalia of Mr. Lister can, in such cases, be dispensed with without noticeable difference in results. Under other circumstances, however, the plan of Mr. Lister, or some modification of it, is unquestionably of incalculable value.

At least five styles of dressing wounds, embracing somewhat the anti-septic manner, are now in vogue among surgeons:

1st. There is the open method, introduced by Kern and now practiced by James R. Wood, at Bellevue Hospital.

2nd. The cotton-wool dressing, of M. Guerin.

3d. The modified anti-septic dressing of Mr. Callender.

4th. The dry dressing of Mr. Gamgee.

5th. Mr. Lister's strictly anti-septic dressing.

The cardinal principle, in the open method, is the prevention of suppurative fever, and this is thought best attained by leaving the stump entirely open, thus securing free drainage. There are no sutures: but the wound is kept scrupulously clean and carbolic acid is freely used.

In the cotton wool dressing. it is used so as to fill every cavity; and layers of wadding are applied over and around the stump, and over all a bandage put on with care, and as much compression as possible, the wound being first thoroughly washed with some germ-killing fluid. The dressings are left on two weeks, and if the discharge appears through the cotton another layer is applied. Neither Dr. Wood nor M. Guerin aim at primary union, their plan being to prevent accumulation of fluids in the stump. The dry treatment of wounds, of Mr. Gamgee, does not differ greatly from that of M. Guerin. Mr. Lister's dressings are familiar to all. Mr. Callenders's mode may be said to be anti-septic without the spray. He simply washes out the wound with a solution of carbolic acid, uses an envelope wet with this solution, a drainage tube being previously introduced, and practises the utmost cleanliness and rest.

The sum and substance of all correct treatment seems to be, perfect coaptation of the wound, cleanliness, washing the wound with a carbolic solution, drainage and rest. These simple requirements will, according to our latest authorities, give the best results.

ON CERTAIN INJURIES OF THE HEAD.

Here the strict province of this paper ends, but before closing it I feel impelled to allude briefly to a class of injuries of the head which I have witnessed in my own practice, and concerning which I can find no satisfactory account, either in the books, journals, or from other sources.

I will narrate three cases which occurred last year, and

these may stand as examples of many scores which I have seen in the past twenty-five years. I desire to premise, however, that I do not report these cases with the idea of giving information, as much as with the hope of receiving it.

Case I. D. M., aged about 65, thrown from a wagon on June 28th, struck on his head and shoulders, was picked up unconscious and carried into a house. When first seen, about an hour after, he was suffering from shock and was still unconscious. Examination revealed some slight bruises about the body and shoulders, and a wound in the scalp behind the left ear, as if made by some blunt instrument or substance. A closer examination proved that the bone was also injured. There was a sort of stellate fracture of the external surface of the mastoid process, but there was no depression, nor could it be ascertained that the fracture went entirely through the bone. The concussion, or shock, passed away in eight or ten hours, and in about twenty-four hours he became semi-conscious; would ask for water, and recognize friends when spoken to. He remained in this condition about thirty hours, when he gradually became unconscious, sank and died, apparently from exhaustion, just three days after receiving the injury, and without the symptoms of either compression, irritation or inflammation of the brain. No operative procedure was made, as none seemed indicated. The treatment was a cathartic, cool lotions to the head, and later, sustaining measures. Catheterization was practiced daily.

Case II. G. B., aged about 60, fell through a hatchway in a roof ventilator, September 20th. It was not known just how he struck. When found he was lying on the floor unconscious. He was conveyed to his home, and when seen about an hour later, he was suffering from concussion and wholly unconscious. A careful examination was made and no wound or injury detected, save some slight bruises on one hip and shoulder, and contusion around the right eye. The concussion passed off in about ten hours, and in about twenty-four hours a good degree of consciousness had returned. He recognized friends, and conversed some about business. He remained in this condition nearly two days, when he gradually became unconscious again and sank and died, apparently from exhaustion, a little over four days from the time of the accident, and

without symptoms of either compression, inflammation, or irritation of the brain. There appeared slight paralysis of the left side of the body, during most of the four days the patient lived. The treatment was cathartics, and a cooling lotion to the head. Catheterization was practiced daily.

Case III. W. J., aged about 60, struck by a moving engine February 14th, was thrown into the ditch and when picked up was entirely insensible. Was brought to the Railroad Hospital, and seen about one hour after the accident. He was then under shock, and wholly unconscious. Examination revealed many bruises about the body and limbs, and a wound in the left temple involving both the soft parts and the bone. There was a stellate fracture apparently of the external table only, with slight depression of the same. The fracture could not be traced through the internal table. The little depression was raised, some scales and spicula of bone removed, and the wound dressed. Reaction returned in twelve or fifteen hours, and partial consciousness in about twenty-four or thirty hours. During the next three or four days, complete consciousness returned, and the patient steadily improved until March 1st, when he was discharged cured, and has since remained quite well.

In regard to these three cases, the query naturally arises what was the pathological condition which in two of the cases resulted in death; while the third, quite similar in appearance, at least during the first two days, recovered? Again; the prognosis, in such cases, is uncertain and often puts the surgeon in no enviable light. At one visit he will find his patient improving, and he gives encouragement to the friends that all will soon be well; when within twenty-four hours a change for the worse occurs, and sinking and death soon close the scene. In other cases, after giving most gloomy predictions, he finds within a day often, that the patient has put off all his bad symptoms, and soon reaches convalescence and complete recovery. If these were very rare cases, I would not presume to occupy your time with their narration, but either my experience is unusual, or many such cases are constantly occurring.

To the queries what are the lesions or pathology in these cases, and how may we be able to give more certain prognosis; I can give no very satisfactory answers, even to myself. I am also obliged to confess, with deep humilia-

tion and regret, that I have not been able to get a post-mortem examination in any of these cases.

Four conditions of the brain may occur, according to authors, as the result of injuries of the head, viz: concussion, compression, irritation (usually from laceration,) and inflammation. But in the class of cases here narrated, concussion passes off, the symptoms of compression, irritation, and inflammation of the brain are not present, and yet the patient wanders into an unconsciousness and dies as if from exhaustion. Again I ask, what is the particular lesion? I offer this theory which may be the true one:—

In the apoplectic seizures resulting in death, there are some cases which on dissection show no trace of the congestion which was so evident during life. This is called nervous apoplexy. In these cases the congestion was removed before death, but left the brain so wounded and crippled that its functions were no longer performed and death slowly followed from exhaustion. In these cases of head injuries, which I have been attempting to describe, may not the concussion—the temporary cerebral anemia, or the reaction—temporary compression, which follows the accident, have so crippled and wounded the brain as to interfere with its due function, and hence death follows as described? If this solution be the true one, future observations and researches will no doubt soon map out the groups of symptoms which characterize this condition of things, and surgeons will then be better able to give more correct prognoses and pursue a more intelligent course of treatment. In the hope of stimulating observation and research in this hitherto imperfectly understood field of our art, these observations are made.

REPORT ON

"HOG CHOLERA."

BY

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Medical men are interested in all forms of morbid action, whether manifested in man or other animals. "Hog Cholera" is an epizootic which has assumed, in the corn-producing and hog feeding states of the west and northwest, an immense importance in an economic aspect.

In the report of the Secretary of State, of Ohio, for 1879, we learn that there was a loss of 1,334,652 from disease among hogs, in 1878—and I am informed by the statistical clerk, Wm. M. Cunningham, that the estimate is probably twenty-five *per cent.* too low. In 1878, in Ohio, 306,349 hogs were lost. and at the present time twenty millions of dollars are lost annually from the death of hogs from disease, in the United States.

Another factor of interest is brought into sight when we know that it is the custom in some sections of the country, when the disease breaks out, to rush the remainder of the flock into market, and although Klein tells us his assistants used the flesh of animals—who had suffered from the mild form of the disease, in the form of salted pork—without any perceptible evil effect, this statement, even from this high authority, is not sufficient to reconcile us to the idea of feeding upon the flesh of diseased animals.

The ravages of Hog Cholera furnish a field which charlatanry has not been slow to enter, and the vendors of "specifics" for this disease reap a rich pecuniary harvest from the farmers, ignorant of the nature of the disease, and

alarmed at the prospective loss of the "crop" which furnishes them the largest proportion of their income. These reasons should stimulate us to the study of this disease.

If Hog Cholera is a specific disease, or fever, which has its regular course after infection, like the specific or infectious fevers in man, it is a fact which ought to be known generally; for, guided by this knowledge, we shall arrive at common sense methods of treatment, and in the end, by hygiene or medicines, successfully contend with the disease.

History.—The disease under consideration has been known by various names in Europe for more than a century. In America for at least thirty or forty years.

Nomenclature.—This disease is known by a great diversity of names: among the laity, as Hog Cholera, Hog Pestilence, Mal Rouge, Red Soldier, Purple Disease; among professional writers, as Pig Typhoid, Pig Typhus, Malignant Erysipelas of swine, etc., etc. Klein, basing his nomenclature on its most constant and characteristic pathological features, calls it Infectious Pneumo-Enteritis. (*7th Report Local Government Board, '77 and '78.*)

There has been much confusion in the minds of investigators, as to the nature of this disease. This is readily understood when we come to study the morbid anatomy, and recognize the wide range of lesions. The inequality of development of the lesions, in the same grade of cases, led the examiner to refer the disease to the lungs, throat, the intestines, or even the skin—as one, or the other, showed the greatest amount of implication. In making post-mortems of dead animals, I have found extensive pneumonic consolidation, with very slight intestinal ulceration. On the other hand, I have observed intense ulceration of the intestines, and extensive peritonitis, with but little evidence of change in the lungs. Indeed, so diverse would be the anatomical appearances, as to lead the observer to think he had met two different diseases. Such were formerly my views of these two conditions. The exhaustive investigations of Klein have shown that these are the lesions of one and the same disease.

This disease Budd, of Bristol, and Prof. Axe, consider the exact counterpart of typhoid fever in man. Murchison and Osler deny this. Klein has shown that it is an

acute infectious disease, peculiar to the hog, and with difficulty communicated to other animals. (*7th Report, loc. cit.*)

Etiology.—Zundel, quoted by Klein, describing under the name of "Malignant Erysipelas of the Hog," a disease which very closely resembles the one under consideration, says the disease occurs almost exclusively on clayey or clay and lime soils. These soils retain moisture, which is necessary for the development of microphytes, which, adhering to the animal's food, may cause the disease.

The epizootic prevails mostly in the summer; Zundel says, never in winter. Certainly, in Ohio, the late autumn months have been sometimes exceedingly fatal to hogs. Klein says the disease has been observed in the districts of London in winter. (*7th Report.*)

The disease is communicated by the breath of an infected animal, by confinement in the pen where the sick have been, by eating the flesh of dead hogs, or rooting around the dead animals. In the summer of 1877, a freshet in the Scioto washed the body of a dead hog down the river, and lodged it in a field where the disease had hitherto been unknown. The flock of hogs feeding in this field took the disease from this carcass.

Townsend says the infection may be carried by water, which has been fouled by infected animals, to healthy flocks below. (*Report of Secretary of State of Ohio*, 1879.)

It is asserted that the milk of an infected sow will communicate the disease to her pigs. Whether this is so or not may well be questioned, when we remember the highly infectious nature of the breath of the infected animal.

Klein has produced the disease by feeding hogs with portions of the dead animals, such as the spleen, lungs, intestines—both fresh and dessicated. He also communicated the disease by feeding them with food soiled with the bronchial mucus and feces.

Inoculation with bronchial mucus, peritoneal fluid, dried lymph, portions of lymphatics, communicated the disease, certainly. Inoculation with blood was only successful in a few instances. Blood which failed in inoculation, after being kept in an "incubator" became active.

Klein successfully cultivated the virus of the infectious pneumo-enteritis to the eighth generation. This matter, in the minutest quantities, was still active. (The experi-

ments of Klein are fully detailed in the *7th Report*, above cited.)

Klein reached the conclusion that infectious pneumo-enteritis, which is nothing else than hog cholera, is dependent upon a *contagium vivum*, and is *particulate*, as has been demonstrated, in respect to vaccinia, by Chaveau and Burdon-Sanderson. From this conclusiou it follows that the smallest amount of this infectious material will produce the development of the disease.

Three forms of this disease are recognized: A *mild* and a *severe* form, and a hemorrhagic form. The mild form produces scarcely any symptoms which would be recognized upon a superficial examination. Hence portions of any herd may be believed to be free from the disease, while suffering from this form. These animals killed show, in the lungs, intestines, and lymphatics, the lesions peculiar to this disease. In other animals, there is slight cough, and slight rise of temperature, which subsides in a day or two, when the animal is apparently well. The lesions in the lungs, and especially in the intestines, will be weeks in healing.

The severe form is marked by the onset of symptoms which are unmistakable, and causes a mortality of at least 80 per cent. (See Klein's report.)

From these facts, we are led to believe that Infectious Pneumo-Enteritis in the hog is as infectious as small-pox in the unprotected human being, and that the apparent exemption of certain portions of a flock attacked with this disease has no real foundation, but that the greatest proportion become infected with disease in some form.

To the truth of Klein's observation we can bear testimony, having killed pigs apparently but little or not at all sick, and found marked lesions. Another interesting fact of our own observation was, that the severity of symptoms did not in all cases indicate a corresponding intensity of lesion.

Symptoms:—The animal loses its activity, and crawls into its nest, or close to its fellows. It refuses to eat. There is thirst, and a rise of temperature. I have seen it rise to 108° in an animal but three days sick. Townsend records an observation of 111°. Axe, quoted by Klein, says the temperature in the sick hog has a typical rise, similar to its course in typhoid fever in man; this

Klein denies. On this point I have no satisfactory observations. A medical friend to whom I sent a thermometer for the purpose of making a series of abservations, failed to make any report. I am inclined to think, from what I have seen, the course of temperature is irregular.

There is cough, slight or severe and racking; a bloody and frothy mucus is ejected; sometimes it is accompanied with nose bleed. The respiration is labored and frequent. As the disease progresses, the animal, while reeling and staggering on its feet, avoids lying down, evidently dreading the pain caused by pressure on the inflamed abdominal organs. A sharp pressure or blow on its belly will cause it to squeal.

The bowels are constipated in the beginning of the disease, and often to the end. There is, however, diarrhea in many cases towards the close, which hastens the fatal issue. The diarrheal discharges are ill-conditioned and offensive, containing blood.

There is a reddening of the skin where it is thinnest. This has been an almost universal symptom, as far as I have learned in Ohio. Klein says it is frequently absent. There are circumscribed patches of redness on the skin of greater or less magnitude, which persist after death, and on cutting them blood escapes.

The superficial lymphatics in the inguinal region are always enlarged, in mild and grave cases alike. This becomes an important and trustworthy element in diagnosis.

The lymphatic glands in the neck and throat are sometimes enormously enlarged. The duration of the disease is from three or four days to as many weeks in fatal cases. The time necessary for complete recovery is unknown.

There is a modification of the symptoms in the Hemorrhagic form of hog cholera. In this class of cases, the disease has an explosive violence, such as we sometimes observe in epidemic cerebro-spinal meningitis in man.

From a condition of health the animal passes at once into a state of collapse, with cold ears and legs, a sighing and labored respiration, and lies stretched on the ground in a state of stupor. The skin is often mottled with extensive ecchymoses of a very dark color. The duration of the disease in this form is often less than a day.

On section of the body of a hog dead from hemorrhagic hog cholera—for all such cases are fatal, we find ex-

tensive hemorrhages into the pericardial, pleural and peritoneal cavities. The sub-serous cellular tissue is almost every where marked with minute, or more extensive, effusions of blood. The membranes of the brain are affected in a similar manner, with effusion into the sub-arachnoidean spaces. No other lesions are observed.

Incubation:—The stage of incubation, according to Sutton, is thirteen days. Axe says five days. Klein, from two to six. The average duration of incubation in Klein's thirty-seven cases of inoculation, was two and six-tenths days. (Vide 7th Report, *cit. supra.*)

Morbid Anatomy:—The body, more or less emaciated according to the duration of the disease, shows circumscribed red patches, which in some cases are covered with sloughs. The mouth and throat usually contain much frothy and bloody mucus. I have seen the pharynx ulcerated and sloughy, presenting an appearance resembling diphtheritis in man. The bronchial glands are enlarged and red. The lungs, when the animal has sunk on the belly, show the most dependent portions in a condition of hypostatic congestion. The lobes are sometimes consolidated, and on pressure a large amount of puriform matter exudes. Sometimes I have observed no other change than the congestion of the mucous membrane of the lungs.

The heart presents a normal appearance; except the pericardium, which in all cases was filled with bloody serum.

In no case, when the animal died naturally, did I fail to find evidences of entensive peritonitis. This was both visceral and parietal. There was serum, or a sero-purulent fluid, in varying quantities, with flakes of fibrin adhering to the peritoneum. Occasionally there would be seen effusion of blood into the sub-serous cellular tissue. The stomach and the upper portion of the small intestines were congested in prolonged cases, healthy in the more recent. A feature which impressed me, and which I have seen mentioned by no other writer, was a condition of circular contraction of the jejunum and ileum so that it looked white throughout its whole extent—like pipe stems of clay. This condition I observed in every case of very high fever, in which the animal was killed. The cavity was dry and empty, and the finger forced into the lumen of the gut and

withdrawn, would be covered with epithelium and the separated mucosa.

Upon the mesentery the lymphatic glands were seen enlarged and red, like buttons strung at intervals on a string.

In the cases observed by myself, the small intestines were in most instances empty: sometimes they contained a matter like gruel. The large intestines, on the contrary, were most frequently distended with a black, dry material, which looked like muck dried in the gut. The contents are sometimes dark and fluid, with mixture of blood in considerable quantity. (Townsend, *O. Med. and Surg. Jour.*, February, 1878.)

On examining the small intestines, I have never seen ulceration or rupture of Peyer's glands. They are enlarged, and this is all. The large intestine has never failed to present ulcerations which are characteristic of the disease. They are present in large numbers, varying in size from one-eighth of an inch to an inch in breadth. These were circular, and to their surfaces adhered the black, fecal matter which, being washed away, showed a conical shaped ulcer, penetrating often to the peritoneal coat. I found one perforation, but whether previous to death or subsequent, I was unable to determine.

The liver and spleen showed no special or characteristic changes.

The kidneys appeared natural to the unaided eye. The bladder healthy, containing healthy looking urine.

I have made many microscopic examinations of the blood, and have observed no change, save an increase of the proportion of white corpuscles. Townsend says he has seen bacteria in the blood, with a power of from 80 to 100 diameters (*vide O. Med. and Surg. Jour.*, Feb. 1878): of the value of this statement, microscopists are competent judges.

The muscles of the heart and limbs exhibit a confusion and indistinctness of their striations, similar to the muscles of man dead from high fever.

The sections of the kidney show the epithelium of the tubules to be cloudy and granular, and the epithelial linings separating easily.

To this extent have my observations of this disease extended.

I believe the following conclusions are warranted from all I can learn of this disease:

1. The "hog cholera" is not anthrax or splenic fever: for—

a. It shows no disorder of the spleen.

b. The bacillis anthracis is not found in the organs.

c. This disease is not communicable to man or other animals, while anthrax is inoculable with great facility.

d. The general course of the disease is different.

2. It is not a typhoid fever: for—

a. It may be communicated by inoculation.

b. The changes in the lymph glands and the glands of the intestines differ in their gross appearances as well as in their microscopic characters, from those obtaining in typhoid fever.

c. Hemorrhages into the lymphatic glands, into the lymph spaces from aneurismal dilatations of the smaller arteries, in all situations and all organs, are a leading feature of Infectious Pneumo-Enteritis, and are unknown in typhoid fever.

d. The Spleen is, as a rule, unchanged; the opposite is true of typhoid fever.

e. Peritonitis and pneumonia are almost constant factors of this disease, and only exist as complications in typhoid fever. (See Klein's report, *loc. cit.*)

3. Hog cholera, is a specific infectious disease.

4. It is not communicable to man, or other animals.

5. All hogs, who are exposed to the infection are liable to its attacks.

6. One attack seems to protect from a second.

Management of the disease:—When the disease appears in any herd of hogs, those which remain healthy should be at once removed from the sick. This separation of the sick and healthy should be repeated as often as new cases appear. The healthy should in all cases be removed to new ground, for the presence of a sick hog is a perpetual menace to the well, and by his wanderings the source of contagion is constantly increased. The daily observation of the healthy flock should be practiced, till the longest period of incubation has passed, i. e., 14 days.

We have seen a hog may be suffering from this disease and give no evidence thereof by the ordinary objective symptoms. In all cases the inguinal glands should be

examined, and their enlargement should, in the presence of other cases, be regarded as evidence of disease, and these animals should be isolated.

As to the severe cases, from 80 to 90 per cent. die sooner or later. These should be slaughtered at once, and their bodies buried so deeply that they could not be reached by other hogs. In this way the disease may, I believe, be stamped out. There should be a law enacted with heavy penalties for knowingly selling, or allowing the transfer of a hog from a herd sick with cholera. By these transfers, I have known the hog cholera to spread from flock to flock at the distance of miles. Severe legal measures only, will check the dangers arising from man's cupidity.

Klein (207 page. Report cited) says, "before leaving this section, I wish to point out the note-worthy fact, *that in the majority of my experiments of inoculation the disease produced was only of a mild character.* [Italics mine.] In this respect the Pneumo-Enteritis deserves to be placed in the same group of infectious diseases with pleuro-pneumonia of cattle, small-pox, and others, i. e., diseases which naturally are communicable through the instrumentality of the air, and when thus produced are generally more severe than when inoculated."

More extended experiments will demonstrate whether it is worth while to resort to inoculation to modify the intensity of the disease. At present it is worthy of consideration, as a possible means of saving the hogs.

As to the medical treatment of this disease in the hog, if our views are correct as to its nature and mode of propagation, nothing but good shelter, good food, and medicines to meet symptomatic indications, will be of any value. The hyposulphite of soda, carbolic and cresylic acids, can be trusted when it can be shown they have any influence over similar diseases, such as small pox and scarlatina, in man. But as long as we are in doubt as to this influence when we can observe their action under the most favorable circumstances in man, why should we trust them in animals! When we can abort small pox or scarlatina in their active progress, we may hope by medicines to abort hog cholera.

We are in no worse condition in respect to this epizootic than we are in respect to many epidemic diseases in man.

Our only means for combatting them are, isolation, disinfection, and symptomatic prescriptions; and any physician who pretends to do more is a quack.

If the conclusions of this paper are warranted by the evidence, then our duty to the farming community is clear. Let us tell them the only way to which they may look for safety.

MIXED ANESTHESIA,

BY

J. C. REEVE, M. D.,

DAYTON.

1879-14

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The term "mixed anesthesia" is applied to the state of insensibility produced by the conjoined effect of narcotics and anesthetics. It is claimed that the influence of a narcotic, when given just before the administration of an anesthetic, is to lessen that excitement which generally attends the action of the latter, and to materially diminish the quantity of an anesthetic required for the production of insensibility, and that thereby the dangers of the process are, in a measure, obviated.

Considering the disappointment of the profession with some anesthetics, the unsettled state of opinion in regard to them, and the testimony which has been presented favorable to this modification of the anesthetic process, it does not seem to have received the attention which was to have been expected, or which it deserves. Although its origin is not so very recent, yet but little has been published upon the subject; in the journals of our language but a single article* has appeared in formal support and recommendation of the method.

The first conjoint administration of a narcotic and an anesthetic was by Pitha in 1861, who gave twenty grains (!) of extract of belladonna by the rectum to a patient he was chloroforming. This is the only instance of the kind on record, which is not to be wondered at, considering the dose! In 1863, Prof. Nussbaum, of Munich, while operating upon a patient for removal of a sub-clavicular tumor,

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*_Amer. Jour. Med. Sc._, April, 1870.

the operation having already lasted an hour, and fearing a further prolongation of chloroform, gave five sixths of a grain of morphia hypodermically. He was surprised by the profoundness of the insensibility produced, which was undisturbed by the remaining steps of the operation, and sleep continued for twelve hours afterwards. Pleased with the effect produced, he resorted to the same method in three other cases, with most satisfactory results.

In the following year, 1864, Bernard, the celebrated French physiologist, accidentally discovered the effect of a hypodermic injection of morphia in prolonging the anesthetic effect of chloroform on dogs, and he immediately made it the subject of experiment. He soon discovered that when the administration of the narcotic preceded, by some little time, that of the anesthetic, the effects were much better, and especially in regard to the much smaller quantity of the anesthetic required to produce a given effect, and the depth of the anesthetic condition. To Bernard belongs the credit of having discovered the value of administering the narcotic before the anesthetic, of having promulgated a knowledge of the procedure, and of having elevated it to the rank of a regular anesthetic process.*

The method soon began to attract the attention of the profession in Europe. The Medical Society of Versailles made it the subject of a formal investigation, and its committee reported that "the salts of morphia injected during anesthesia produced by chloroform possess the singular property of prolonging the duration of the anesthesia in proportion to the amount of morphia employed, and that this property may be turned to use in man when the duration of an operation gives rise to fears of continuing the anesthesia by means of chloroform."

Guibert, Labbe and Goujon, of Paris, Rigaud, Sarazin and Grosgean, of Strasburg, Ollier, of Lyons, Uterhard, of Rostock, Thierfelder, of Holland, Mollow, of Moscow, and others, afterwards published the results of their experience with the process, and all bore testimony to its safety, to the much smaller quantity of the anesthetic required, and to the absence, or modification, of that stage of excitement which is the most troublesome, as it has been shown by sad experience to be the most dangerous, period of the anesthetic process.

*Leçons sur les Anesthesiques et sur l'Asphyxie. Paris, 1875.

This is the history of the method of mixed anesthesia in brief. More recently it has been carefully investigated by de Brinon,* under favorable circumstances. His observations seem to have been made with scientific precision, and the results obtained by him are therefore deemed worthy of your consideration, and will enable you to judge in regard to the claims which have been made in favor of it.

The observations were made at Lyons, in the service of M. Aubert, upon children, ranging from six to nineteen years of age, the subjects of scrofulous or syphilitic diseases, requiring surgical interference. The anesthetic used was chloroform, given upon a compress, and with the exercise of great care as to the quantity poured out, that as close an approximation as possible might be made to the amount inhaled by the patient. Careful attention was given to this point, as well as to the amount of excitement manifested by voluntary and involuntary movements, as the state of anesthesia was produced, the duration of the anesthetic condition and of the sleep which followed it, and the amount of consecutive vomiting.

There were three series of observations. The first consisted of sixty-three patients, submitted to the anesthetic influence of chloroform alone. The second, of sixteen cases, in which anesthesia was preceded by an enema of one centigram of morphia. The third, of forty-five cases, in which the inhalation was preceded by a hypodermic injection of muriate of morphia. The amount of morphia used was one centigram (one-sixth gr.), and the interval between its administration and the beginning of the inhalation was, on an average, fifteen minutes. The dose, it will be observed, is a large one, considering the age of the subjects, and is much larger than that used by the military surgeons of Strasburg, who have reported upon this method. Their patients were adults, and they used but from 1-13 to 1-7 gr. of morphia.

The first point is in regard to the weight of chloroform consumed:

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*_Recherches sur l'anesthesie chirurgicale obtenue par l'action combinee de la Morphine et du Chloroforme._ Par H. de Brinon, Docteur en medicine de la Faculte de Paris, Ancien interne des hopitaux de Lyon.—Paris, 1878.

First series,	53 cases,	without morphia. . . .	25.89 grams.
Second "	16 "	enema of morphia. . .	17.79 "
Third "	38 "	hypodermic injection preceding	11.96 "

This shows a difference of more than one-half the quantity consumed in favor of the process of mixed anesthesia. To obviate any influence which might be exercised by the long duration of some operations, as compared with others, those which lasted not over fifteen minutes were selected, and the amount of chloroform used per minute calculated. They were then compared, with the following result:

First series,	37 cases,	without morphia,	chloroform used per minute	....3.44 gr.
Second "	12 "	enema with "	" " " "	....1.79 "
Third "	30 "	hypodermic injection of morphia,	" " " "	....1.37 "

"We see, then, that, by resorting to a hypodermic injection of morphia, before administering chloroform, the amount necessary to produce anesthesia, for an operation of less than fifteen minutes duration, is reduced almost to one-third. I do not pretend to affirm that the weight of chloroform employed corresponds exactly with the amount absorbed; but I do not believe it a matter of indifference, in reference to the safety of the patient, whether we use ten grams or thirty." "Bernard attributed the notable diminution of fatal accidents among the animals chloroformed by him, to the much smaller doses of chloroform required by this method." (p. 40.)

The amount of excitement manifested by patients, as they pass under the influence of an anesthetic, varies very widely. When this stage is marked, there is no doubt that it is the most dangerous period of the whole process. Thus, in more than fifty per cent. of the fatal accidents from chloroform, death took place before complete anesthesia was produced. To abrogate, or to diminish, this stage, therefore, cannot but be an improvement, and assist in diminishing the danger of the process. De Brinon's observations agree with those of all others who have written upon this subject; the effect of a preceding injection of morphia is to suppress this stage, in the great majority of cases. This is shown by the comparative number which exhibited it in the three series of observations:

In the first series . . . . . 48.78 per cent.
" " second " . . . . . 21.42 " "
" " third " . . . . . 15.78 " "

Among others whose experience confirms this effect of morphia, Mollow, of Moscow, may be mentioned as one who, the most recently, has investigated the subject. He is decided in his testimony in favor of this mixed anesthesia, and especially in regard to the far less duration of the period of excitement.*

Vomiting is one of the most troublesome and distressing after-effects of anesthetics, and following some operations, as ovariotomy and that for cataract, may compromise or entirely nullify the beneficial effect of the operation. The observations do not show an entire abolition of this feature, but a diminution. Thus:—

Vomiting during or after the anesthetic process, was present:

In the first series . . . . . 38.61 per cent.
" " second " . . . . . 25. " "
" " third " . . . . . 26.31 " "

There seems to be, then, no escaping the evidence of these carefully made observations, that the claims made for mixed anesthesia are just; that the amount of the anesthetic required to produce and maintain insensibility is much less; that there is a far less degree of excitement manifested by the patients, and less vomiting afterwards.

My personal experience with this process confirms all these points, except as to vomiting, as well as the testimony in favor of the insensibility produced being more profound and more prolonged. In regard to vomiting, I have made no especial comparative observations. I never had a severe case of vomiting after it. I can only give my experience with mixed anesthesia in a general way. I have resorted to it in every operation of any severity, or likely to be of any duration, for several years past, and have given morphia before anesthetizing any patient of muscular build and vigorous health—a class of subjects especially prone to manifest excitement—even if the operation was to be but of brief duration.

*Nouveau Dict. de Med. et de Chir. Pratique. T. XXIV. Art. Opium p. 606. A translation of the original article is in the *Revue des Sciences Medicales*, t. X.

I have used for injection the fluid carried for use with the hypodermic syringe (which contains sixteen grains of sulphate of morphia, and one-half a grain of sulphate of atropia to the ounce of water), throwing in from five to twelve minims, according to the character and probable duration of the operation. The anesthetic administered was the mixture of the chloroform committee of the Medico-Chirurgical Society of London, which consists of one part of alcohol, two parts of chloroform, and three of ether. It is the only anesthetic I have used since shortly after the appearance of the report of that committee in 1864, except in obstetrics and for children.

The interval between the injection of the morphia and the inhalation of the chloroform, should be from fifteen to twenty-five minutes; just long enough for the effect of the narcotic to be fully felt by the nervous centres. I learned by the repeated observations of a patient who was subject to severe attacks of angina pectoris, that the first effect of a hypodermic injection of morphia can be sensibly felt at the end of three minutes. He repeatedly timed the interval between the insertion of the needle and the first sensation of relief. From that time on the effect increases, and I believe I have learned from experience that the length of the period between injecting the narcotic and begining to operate is by no means a matter of indifference. When the interval is short, the sedative influence of the narcotic has not been reached and the process is likely to fail entirely as to a lessening of the stage of excitement and in some cases there were grounds for believing that it had been even increased.

I have had one case which enabled me to make a fair comparison between the amount of excitement manifested under the above anesthetic mixture alone, and as modified by a preceding injection of morphia. The patient was a young man, of pretty vigorous build, whom I anesthetized in order to pass an instrument through a traumatic stricture of the urethra. I never saw a more violent stage of excitement, both voluntary and involuntary. The process was long and violent; so much so, that I began to fear I had not assistance enough in the single physician with whom I was associated in the case, and the friends manifested decided symptoms of interfering and putting a stop to further proceedings. Three months afterwards, I performed ure-

throtomy, and before administering the anesthetic, gave eight minims of the hypodermic mixture. The contrast was marked; there was but little excitement manifested, and no violence whatever.

Such opportunities of comparing the two processes in the same subject do not often occur. De Brinon's work contains an instance. A boy, 14 years old, was anesthetized three times; twice with chloroform alone, the third time with an injection of morphia preceding. On the two former occasions, the excitement was violent and only by forcing the chloroform was insensibility produced. The last time there was only some incoherent expressions and a few violent movements, but nothing comparable to what occurred before.

In all cases of severe or prolonged operation, a farther modification of this process may be made by the addition of a larger quantity of atropia to the hypodermic injection. This I resorted to in one case of ovariotomy* with excellent effect, and shall always use it in the future in such operations, or should I be obliged by circumstances to administer chloroform as an anesthetic. Atropia is a powerful stimulant to the heart and sympathetic nervous system,† and nothing could be better calculated to counteract the depressing effect of chloroform on the great central organ of the circulation. It is distinctly recommended by Bartholow‡ for this purpose.

Practice has given no evidence of danger in the process of mixed anesthesia. In theory, everything is favorable to the view that the dangers of anesthesia are diminished by this plan. It has already been stated and is well known, how dangerous is the stage of excitement; abundant evidence has been presented that this stage is very considerably lessened: the inference, therefore, cannot be escaped. Farther, emotion has played its part in the tragedies of chloroform accidents, as it did in those sudden deaths on the operating table, before anesthesia was known. How great a part it has played, and just how many deaths it has helped to cause, it is impossible to say, but whatever influence it may have, it is only reasonable to maintain, is nullified by the soothing and blunting influence of morphia upon the nervous

*_Am. Jour. Med. Sc._ April, 1876. p. 380.
†Harley, _The Old Vegetable Neurotics_, 1869.
‡Prize Essay: _Trans. Amer. Med. Assoc._, 1869.

susceptibilities and heightened fears of the patients, as they approach the operating table, and begin the inhalation of the subtle vapor upon which their imagination has conferred so many terrors.

Thus far, we have been able to find but one objector to this process of anesthesia. That one is Maurice Perrin,* one of the authors of the "*Traite d' Anesthesie Chirurgicale*," and therefore one whose voice deserves to be heard, and whose testimony, if based upon personal observation, would be most weighty. What he advances, however, is entirely theoretical; he has not resorted to the process at all. His chief point is that the period of excitement is not lessened, and adduces some observations published by Grosjean in proof. They were all cases, however, in which the injection of the morphia had preceded the administration of the chloroform by some hours—too long a time. Moreover, the evidence in favor of lessened excitement has accumulated since M. Perrin wrote upon the subject. He further argues that a period of deep sleep, following a severe operation, is not favorable to the patient's welfare. This is a point upon which practical surgeons will differ.

Finally, I believe that the process of mixed anesthesia, as originated and established by Nussbaum and Bernard, merits farther researches and investigation, that both theory and practice seem to favor the view that by it the dangers of anesthesia are lessened, and that it may be resorted to with advantage in almost all classes of operations.

DISCUSSION.

Dr. T. W. Gordon had had but one case in which he had used the mixed anesthesia. This was a case of ovariotomy, in which he had expected to find extensive adhesions. The operation lasted two hours. The tumor weighed fifty-five pounds. Eight ligatures were applied. The amount of chloroform used was less than that usually

* *La Question des Anesthetiques.* Paris, 1875.

required. There was no struggling, the operation proceeded nicely, and the patient made a good recovery.

Dr. A. Dunlap would like to hear from some of the Hospital physicians as to the use of chloroform and anesthetics in general. The county doctor had comparatively little opportunity for observation.

Dr. P. S. Conner said: Whatever Dr. Reeve says to us on the subject of anesthesia, is entitled to the most profound consideration, for no gentleman in the United States is better informed on this important subject than he. Therefore, when he comes before us and advises the use of mixed anesthesia, that advice is worthy of, and should receive, careful attention.

So far as my personal experience goes, I have had but one case in three years, in which I have had any opportunity to use the mixed method, as I have used chloroform but once in that time. I had the misfortune to see two deaths within thirty days, from chloroform, and although only one of these occurred in my own practice, I took the lesson no less to heart, and did not care to wait for further personal experience.

As Dr. Reeve has said, most deaths occur during the stage of excitement, and before complete anesthesia is produced. This, however, is not always true, as in the two cases to which I alluded. Here anesthesia was complete, when death suddenly occurred. That the use of a large quantity of chloroform may increase the danger, is doubtless true, but it is not the large amount of chloroform used that causes death, in these sudden cases, for usually only a small amount has been given.

I am satisfied that death cannot be guarded against, as it occurs without warning. I therefore use ether exclusively, and have done so for three years. If the patient reveals bad symptoms with ether, the administration can be stopped, and means taken to revive the failing powers,

but with chloroform, no time is given, as death is almost instantaneous.

I have had no experience with this mixed method, for, as I have said, I have entirely abandoned the use of chloroform.

Dr. E. H. Hyatt said he had been much pleased with the paper. Morphia, or any preparation of opium, tends to paralyse the heart, and this was the cause of death when death was caused by chloroform: therefore, if these agents were combined, did we not increase the danger? He accordingly would object, on theoretical grounds alone, to this combination.

He thought that there *was* an agent that would obviate the danger of chloroform; namely, digitalis, or its alkaloid. He had recommended this to his classes for several years past. It strengthened the heart, which was the organ that tended to fail. The second cause of death was paralysis of the respiratory centres. This tendency could be obviated by the use of atropia. Accordingly he administered both these remedies a few minutes before using the anesthetic.

Dr. J. C. Kennedy had had a case in which the jaw dropped, the pulse ceased, and also the respiration. He pulled forward the tongue, and in a few moments the pulse and respiration were as good and regular as before.

Dr. A. Dunlap said that most of his operations required so much time that anything that would diminish the dangers of anesthesia would be most gratefully received. He had himself usually administered a good dose of alcohol before the chloroform was commenced. The alcohol controlls the preliminary, and also the subsequent, stages of excitement. This was very important, especially the latter, in ovariotomy. He related a case in which both these stages were marked, and thought that in that case the morphia would have aided him very materially. Had for sev-

eral years used the "A. C. E."* mixture, and liked it very much, using plain chloroform, if the patient did not yield readily to the mixture; seldom used over one ounce of the mixture, for an operation requiring three-fourths to one hour.

Dr. Muscroft had used chloroform for years, almost exclusively. Had had one death years ago, but was not deterred by that from its further use. Thought that persons did not watch their patients closely enough during the administration. He gave a cathartic the night before, and allowed his patient to take breakfast.

As to the use of morphia, it may be a good plan. It requires less chloroform, and this is certainly an advantage. If chloroform is carefully watched, he did not think there was any special danger attending its use.

Dr. X. C. Scott said that a few months ago he had a case in which he used chloroform. After twelve or fifteen inhalations, the patient fell back apparently dead. The body was at once inverted, artificial respiration kept up, and the usual remedies resorted to. In the mean time, nitrite of amyl had been sent for. Owing, however, to a mistake of the messenger, at least fifteen minutes elapsed before it was brought, during which time the patient manifested no sign of life. Almost instantly, on commencing the use of the amyl, voluntary respiration commenced, and in a few seconds the patient was resuscitated.

The amyl was poured on a handkerchief, which was held to the nose while the artificial respiration was kept up.

Dr. Reeve, the author of the paper, rose to reply, but a hasty adjournment cut him off.

*Alcohol one part; chloroform two parts; ether three parts.

ON THE USE OF THE

PLASTER OF PARIS ROLLER,

IN THE

TREATMENT OF CLUB FOOT.

BY P. S. CONNER, M. D., CINCINNATI.

PROFESSOR OF ANATOMY AND CLINICAL SURGERY, MEDICAL COLLEGE OF OHIO, PROFESSOR OF SURGERY DARTMOUTH MEDICAL COLLEGE, ETC.

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Every one knows how readily in many cases of club foot, in most, indeed, in young subjects, the deformity can, for the time being, be relieved by manipulation; and knows equally well how many expedients have been resorted to to mechanically supply the place of hand-pressure.

Several objections lie against all the apparatuses that have been devised; they are more or less costly; they are more or less cumbersome; they all, to a greater or less extent, make unequal pressure, and hence are liable to produce thickening or ulceration; they are oftentimes painful; they frequently fail altogether of accomplishing the object for which they are employed. Is there any method of dressing, easy of application, causing little or no distress to the patient, yet capable of producing very satisfactory results? The adhesive-plaster treatment in many cases, especially in quite young subjects, answers the requirements; but it is very liable to irritate the skin, to produce

unequal pressure and consequent ulceration, to quickly become somewhat detached, and very frequently it cannot prevent the reproduction of the deformity, partially or altogether corrected by manipulation at the time of the application of the straps.

None of these objections can be urged against the plaster of Paris dressing, properly applied. Put on over a layer of cotton batting (or, preferably, wadding), of suitable thickness, it is not likely to make any uncomfortable pressure, provided that too complete rectification of the existing deformity is not at first attempted. Still less likelihood is there of any ulceration occurring, for the causative pressure gives warning sufficiently early to protect the patient; it is only necessary that the warning should be heeded, and the dressing re-applied. The quick setting of the plaster, and the subsequent firmness of the casing, prevent the reproduction of the deformity; while the slight degree of yielding permitted by the underlying cotton, renders the dressing more tolerable. The thickness of the casing being only so great as to insure the necessary firmness, any common shoemaker can make the needed changes in the ordinary shoe, and the weight is not so great but that the patient can walk about without very much inconvenience; much less, certainly, than with some of the leather and iron machines that have been, and still are, used.

As soon as the dressing begins to break up, it should be removed and a new one applied, such change requiring to be made every two, four, or six weeks, according to circumstances.

The question of tenotomy, in any given case, must of course be settled on the same grounds and for the same reasons as if any one of the ordinary instruments were to be employed.

By using the best plaster that can be procured, (in my experience the so-called dentist's plaster), and remembering that hot strong salt water rapidly breaks up the casing, a firm, durable, readily-removable dressing can by any one be applied to a case of club foot; and by its use many a patient may be spared a life-long deformity, otherwise allowed to exist because of the very considerable cost of the club-foot shoe—a cost that the patient, or its parents, cannot afford.

TUBERCLE:

By H. J. Herrick, M. D.,

CLEVELAND,

Professor of Principles of Surgery, Medical Department, University of Wooster.

TUBERCLE.

BY H. J. HERRICK, M. D., CLEVELAND.

PROFESSOR OF PRINCIPLES OF SURGERY, MEDICAL DEPARTMENT, UNIVERSITY OF WOOSTER.

I have chosen the general subject, tubercle, for consideration at the present time, with the hope of calling up some points of its pathology which are given by our authors as being fixed and settled, but which, to me, seem not so clearly established.

When we consider the frequency with which tubercle enters into, as a cause, and modifies, the course and termination of various forms of disease, we may regard it as fully worthy the attention proposed. No disease takes, in different individuals, the same course, being modified by different conditions, each of which requires special consideration in estimating the results. It is not my purpose, at present, to enter into the detail of the subject as found in special diseases, but rather to inquire into the general features, cause and process of formation, with the hope that this general consideration may be followed by some rational suggestions as to the treatment of the various diseases where tubercle is found as a cause or modifying agent.

Medical writers, from the earliest times, have observed and discoursed upon the subject, and have offered different theories as to the substance itself and the process of its formation. Tubercle is a nodular formation in the tissues, usually multiple, for the most part miliary, non-vascular, of varying size, consisting of cells, reticular tissue, with granular unorganized matter. It is described by pathologists as occurring in various organs, in the form of a small round body, and as consisting, at first, of a gray, firm, somewhat transparent substance, which, by degenerative

changes, becomes opaque and dull yellow in color, which may be broken down, presenting the appearance of cheese, or cheese curd. This, at a subsequent period, loses its consistence, and is converted into a liquid mass, of the consistence of cream. It is further claimed that this softening process always begins at the center of the tuberculous mass.

These were the views of Laennec, which, however, were called in question by Andral, who described tubercle at its beginning as a "pale yellow, opaque, small, round body, of various degrees of consistence, and in which no trace of organization can be detected." Thus early differences of opinion were expressed, as to the appearance and nature of this formation. But the more modern views of cellular pathology have sought, in the microscopic examination of the mass, to give it a place among morbid new formations. Some pathologists of the present day, recognize two varieties, others three, while still others regard the different varieties described as but representing the different stages of the same morbid product, each of which is regarded as one of the results of inflammation. The gray tubercles, which appear in minute masses throughout the tissues, are small jelly-like bodies and from their minute size are called miliary—the size of millet seed. They form rapidly, and from their number and extent produce speedily serious results. The yellow are larger, less firm, more grouped together, forming tubercular masses, varying from half an inch to an inch or more in diameter. Laennec maintained that tubercle presented itself in the lungs under two different aspects, viz: tubercular infiltration, and tubercular granulation. Reinhardt holds that tubercle is only one of the forms presented by inflammatory products when undergoing transformation, and that all tubercular matter is really inspissated pus. Rindfleisch speaks of it as representing a third type of specific inflammation. He also regards it as the expression of a commenced dyscrasy, a corruption of the juices, which may be already congenital, or may, from a point, diffuse itself throughout the organism. In solving the problem as to how tubercle is formed, he announces the conviction that the vascular and connective tissue systems must be regarded as the origin of this new formation, as though, through certain changes in the conditions of nor-

mal nutrition, these tissues were the agencies for the formation of this substance which has few or no properties of an organized growth. Virchow "holds that tubercle is a granule, or nodule, and that this nodule constitutes a new formation, which, from the time of its earliest development, is necessarily of a cellular nature, and like all other new formations, has its origin in connective tissues, and which, when it has reached a certain degree of development, constitutes a minute knot within this tissue." The great characteristic of this formation, he claims, is its richness in nuclei without distinctly marked cell walls, or with a cell wall which closely invests the nucleus, or with larger cells with manifold division of nuclei, so that a large number are contained in one cell. Virchow also regards the two forms, the gray and the yellow, the gray being miliary, the yellow a group of the gray in a state of fatty degeneration. The smallest tubercles are described, by Wagner, in the fresh state, as clear as water, or grayish white, translucent. Large tubercles, and tubercular infiltration in the circumference, show the same translucent appearance, while in the centre they show a grayish yellow, or yellow opaque, cheesey consistence, constituting yellow tubercle. The substance is described as being cellular, with an imperfect reticulum of irregular spaces. The cells are, he says, most often similar to colorless blood corpuscles, being smaller and variable as to their size and the number of their nuclei. Tubercle always occupies the place of the normal tissue, which has sually, to a great degree wasted or is pushed to one side.

The question of greatest interest is as to the *origin* of tubercle. It is usually spoken of by authors as an inflammatory product, or as a new formation, formed from the connective tissue of different kinds, especially from the so-called lymph sheath of small arteries, lymphatics, veinlets, and serous membranes, growing from the connective tissue corpuscle and the endothelium of the part. Paget speaks of both varieties of tubercle, the gray and yellow, as essentially similar, their distinctive characters being in the absence of blood-vessels, and the defective development of the blastema and corpuscles.

This much I have chosen to select, as embodying the theory and opinion of authors at different times as to the character of these formations.

Is tubercle to be regarded as an inflammatory product in any sense? Is it a new formation, produced by any internal process of vital action? To these questions I would answer, no. With due modesty in the consideration of the affirmative views expressed by distinguished authors, I would suggest that if tubercle is formed from the connective cellular tissue, or lymph-sheaths of small vessels, we should expect to find the new formation supplied with new formed vessels, and to find the mass composed of cells of exuberant growth. This certainly seems to be true of all new formations which manifest an active vital process in their departure from the normal type. But in tubercle this is not so. There is an absence of vessels, and the mass is composed of shriveled cells, minute granules, and oil particles, of various but usually small size. The cells, or cytoblasts, are of various shapes and structure, and are degenerate or defective.

Again; they cannot be recognized as inflammatory products, as they are usually deposited in the absence of any inflammatory action, no inflammatory fever being present, or any of the local or constitutional symptoms. Indeed, I think a careful observation will show that there is the reverse of fever, that the temperature is lower than normal, and that all the vital processes of the organism are impaired. It seems to me much the more simple and rational theory, to regard this new formation rather as a deposit, or an infiltration if the formation be outside of the vessel, in the tissues. Without question, the source of the material is the blood. What changes must have been wrought, then, in the blood, that the dyscrasy favorable for this deposit may exist? Beyond question there may be inherited such organic or constitutional condition as shall predispose to it. Special organic diseases are not inherited, but a general dyscrasy—bad mixture—which must be found in the blood and subsequently in the tissues, for the tissue must represent the degree of perfection of nutrition.

I would also hold that this dyscrasy may be formed by some imperfection in the blood making, or blood purifying, processes. The clinical experience of any physician of moderate practice will confirm this, if the antecedent symptoms are carefully scrutinized. The digestive organs are those which first suffer, and the patient will refer, early

in established cases of tuberculosis, to those organs as the seat of the greatest distress.

It is not within the space allotted to this paper to review the digestive processes and point out specially the defects which would be adequate to produce the dyscrasy supposed, but generally we may observe that some one or more of the conditions of chymification or chylification may be absent, so that the process shall be imperfect. As a result, there is borne to the absorbents and lymphatics a material which is unassimilable, which cannot be elaborated in the volume of the blood or organs whose function it is to perfect this process, as the spleen and epithelium of vessels, or glands of elimination. Is it to be regarded as impossible that the absorbents should receive such a material? Have we not abundant evidence that material is received through them, which is the source of morbid conditions, subsequently observed in the tissues? Is not rheumatism, and the diathesis existing, best explained and most successfully treated by looking to the digestive organs as the "fons et origo" of the morbid process? If such unassimilable matter may be received by the absorbents and carried into the veins, it is thence carried to the liver or lungs, the most common places for the deposit of tubercle. All new material carried into the blood elements must be elaborated into an appropriate pabulum for the tissues, or the tissues suffer impairment of nutrition. Or else the excretory organs must dispose of the crude material. But here is a substance which cannot be excreted, hence it is deposited by preference within the organ which fails to eliminate it. The deposit does not, at any stage, present the properties of an organized tissue. The location of the deposit, with reference to the blood-vessels, may be upon the inner surface, or it may be transferred through the thin walls of the capillaries into the tissues. The appearance, at first, is that of a clear, semi-transparent jelly-like mass, composed, as we have observed tubercle is, of irregular cells, cytoblasts, and shriveled organized forms, with albumen and fibrine, which have passed from the blood, and now constitute the particular deposit under consideration.

As the mass becomes more accumulated, it assumes a firmer consistence, yellow color, and presents all the appearances of another variety. Thus, in the agglomerated form, we have the yellow tubercle. This formation, I de-

sire to repeat, is to be regarded as but a deposit, precisely in the same sense that we have the deposit of the salts of lime in vessels, or different parts, as in calcareous degeneration, or the atheromatous deposit, as it is found upon the inner arterial coats. The dyscrasy existing, the new formation is a passive deposit, and indicates some defect in the manufacture of the blood, from which all morbid products are derived.

If these notions are true, we should expect to be able to trace a pretubercular condition, more especially in connection with the digestive organs. This we find is practically true. In all cases of tubercular disease, which have come under my observation, I am sure this stage could be distinctly marked, being characterized by a lowering of the temperature, impairment of the vital forces, with well recognized disturbance of the digestive organs. As the deposit is made upon the tissues of a part, that tissue is impaired in its function, its nutrition is disturbed, and the deposit acts as a foreign substance. The structure of the vessels and tissue is weakened, and if in the vascular tissue of the lung, the vessels are liable to give way, resulting in hemorrhage. As a foreign substance also, it excites inflammation, accompanying which there is fever, and a general disturbance of the whole constitution.

Such, it seems to me, is a rational explanation of the origin of the tubercle. I do not claim that it may not form in connection with inflammation or indirectly as a consequence of it, but I do claim that the tuberculous mass is in no sense an inflammatory product. The seat of its deposit may be very various, as in the lungs, liver, larynx, lymphatics, bone, or, indeed, any of the tissues of the body. The course of the disease and leading symptoms will be different, as different parts are affected. A rational estimate of the differences must be made in estimating the course and sequences of inflammation or any disease as it affects different tissues. So in this.

The errors of practice, growing out of the old notions of tubercle, were to direct all medication and treatment to the suffering organ, to the entire neglect of the organ or organs in which the dyscrasy originated. As might have been expected, little or no progress has been made in rational therapeutics for the relief of this class of diseases. It is reasonable to suppose that if the defective blood making

process can be early detected, the relief must come by early correcting any disturbance of the blood making and blood purifying organs; also that early in the plastic state of the deposit, is the most opportune time for disposing of the morbid material. This I am certain is not the usual method of treating incipient tuberculosis. The reason usually is, without doubt, that the physician neglects in this stage a critical examination of all organs, being rather diverted to give undue attention to the organ in which the most obvious symptoms are present, as, for example, the lungs, because of the cough, shortness of breath, expectoration, &c.

When the profession, by thorough examinations early of all the conditions of the patient, prescribes intelligently and definitely for correcting some known error, we may hope to show a better record against the invasion of this our most common and deadly foe. If, as I claim, in tuberculosis pulmonalis the origin of the disease is not in the lung, the absurd practice of directing our therapeutics mainly to the lungs and air passages becomes apparent. It is equally lacking in good judgment to suppose that the disease is due directly in any sense to climate, or that we discharge our professional duty when we send our patient away from home, its comforts and friends, to some foreign clime, where it is hoped the atmosphere in some vague way, will give relief. If the physician can but become sensible of the fact that the patient carries along with him the source of the disease which may be aggravated, as so often it is by the change, he will be more guarded in the advise given and in the selection of location. He will also weigh more carefully the condition of his patient, with the influences under which he is to be brought by the change. What the profession needs to-day is to hold in mind practically the fact that disease is a disordered *function*, that the diagnosis and order of sequences of the disturbances are the antecedents to the application of rational therapeutics.

SANITARY LAWS.

BY GEO. E. WALTON, M. D.,

CINCINNATI.

"HOW FAR A GOVERNMENT SHOULD INTERFERE WITH PRIVATE RIGHT FOR PUBLIC BENEFIT."

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"HOW FAR A GOVERNMENT SHOULD INTERFERE WITH PRIVATE RIGHT FOR RUBLIC BENEFIT."

Governments are of three types: 1. The despotism, in which all power is vested in the ruler, and all the people are his servants, his will is law, and he alone enjoys liberty. 2. The limited monarchy, which divides these powers, both the people and the sovereign enjoying a certain degree of liberty, both the sovereign and the people being amenable to law. Each, however, —the people, on the one hand, and the sovereign, on the other, in varying proportion in different nations, has given to the other a portion of its privileges, has required of the other a portion of its obligations. 3. A democracy or republic, in which all power resides in the people, or rather in the majority; for whatever the majority will, is politically right, what they deny is wrong—subject only to the limitations of a constitution, and even that may be changed at their behest.

But in a republic, in a limited monarchy, or in a despotism, we always find continued movement and change in the various forces which constitute its elements. In a republic, there are continual tendencies to centralization of power: in a despotism, there are the forces of decentralization. The republic, like a new world, is sent flying forth

a red molten mass from the heated fires of popular passion. It cools, hardens, solidifies. The despotism is already incrusted with the petrifaction of ages: its surface is dense and seamed, so that with the revolutions around a central power, the centrifugal force becomes intense and one day the entire system bursts into fragments.

What, however, has all this to do with the subject? Nothing directly, considerable indirectly. It indicates to us that when we propose laws, we should be exceedingly careful to know their tendencies. We should inquire whether a law be contrary to the spirit of the institutions of a country. In a despotism, many rigid sanitary laws may be appropriately enacted and vigorously executed, which in spirit would be entirely subversive of the institutions of a republic.

What principles, then, should enter into the construction of sanitary laws in a republic? First of all, we should zealously guard the liberty of the subject—that cornerstone on which republics are builded. It becomes necessary to inquire, then, what is liberty? The liberty of nature, and the liberty of law, are separate quantities: the one is opportunity to do whatever we please, whether it be right or whether it be wrong; the other is the opportunity to do whatever we please, so long as it does not contravene the rights of our fellow citizens. Let us for a few moments interrogate our ancestors on these points. What does Montesquieu say in his "Spirit of Laws"—that sparkling mine of crystallized political maxims, where all may delve? Says he: "In governments, that is, in societies directed by laws, liberty can consist only in the power of doing what we ought to will, and in not being constrained to do what we ought not to will."[1] * * * "Political liberty consists in security, at least in the opinion that we enjoy security."[2] Says the learned commentarian, whose name has become the token of a profession—says Blackstone: "This natural liberty consists properly in a power of acting as one thinks fit, without any restraint or control unless by the law of nature. * * * Political liberty, therefore, or civil liberty, which is that of a member of society, is no other than natural liberty so far restrained by human laws

1 Montesquieu, *Spirit of Laws*. Book XI, Chap. iii.
2 *Ibid*, Book XII, chap. ii.

(and no farther) as is necessary and expedient for the general advantage of the public."[1]

Having thus shown, in a somewhat cursory way, the difference between natural liberty—that which many people mean when they use the word "liberty," and political liberty—which is the liberty of societies and governments, the only kind of liberty permissible in the relations of life, and, indeed, a liberty which varies and may be differently defined, according to the form of government; having noticed these, I pass on to inquire how far it is proper, in the formulation of sanitary laws, to restrict the natural liberty of the individual, and I need hardly remind you that there is considerable diversity of opinion in this regard. Writers on political ethics, of almost equal celebrity, hold entirely opposite opinions. Thus, Herbert Spencer says: "For a government to take from a citizen more property than is needful for the efficient defense of that citizen's rights, is to infringe his rights—is consequently to do the opposite of what it, the government, is commissioned to do for him, or, in other words, is to do wrong; and hence all taxation for sanitary superintendence, coming, as it does, within this category, must be condemned."[2] Opposite to this, we may place the statement of the distinguished writer on political ethics, Prof. Lieber. Says he: "Many considerations of high importance must give way, if clashing with the sanitary interests of the members of the community. Every other right is to give way, if life and health are in question, and so high has it been considered by the civil law, that to save my life, if under absolute necessity, every right of others may be disregarded."[3]

I will refer to only one other authority, also a German, and in Germany a radical,—I mean Baron William Von Humboldt, brother of the world renowned Alexander, not so well known abroad, but equally well known in Germany. Says the distinguished Baron: "I esteem it more in accordance with fundamental principles (in a theory which is necessarily removed from practical application), to confine prohibition laws to those cases only in which actions are done without the will of another, or still more in direct op-

1 *Blackstone.* Book I, chap. 1, pp. 125-126.
2 *Social Statics*, by Herbert Spencer. p. 407. New York, 1868.
3 *Political Ethics*, Lieber. Vol. I, p 179. Philadelphia. 1877.

position to it. * * * In order to provide for the security of its citizens, the State must prohibit, or restrict, such actions, referring immediately to the agents alone, as imply the infringement on others rights, in their consequence, or encroach in these, on their freedom or property, without or against their will: and, further, it must forbid, or restrict, those actions, when the probability of such consequence is fairly to be apprehended, a probability in which it must necessarily consider the extent of the injury feared, and, on the other hand, the consequences of the restriction on freedom implied in the law contemplated. Beyond this, every limitation of personal freedom is to be condemned, as wholly foreign to the sphere of the states activity."[1]

The conflict of opinion here shown by men of acknowledged acumen, arises in part from the diverse theories of the office of government. Undoubtedly Herbert Spencer holds that government should only concern itself with the personal security of the citizen; that is, that his safety shall not be imperilled by foes from without—foreign enemies, or foes from within—domestic enemies, embracing murderers, ruffians, thieves and malefactors of every sort. As a result of such notions, we find him declaring that all taxation for sanitary superintendence is wrong. Lieber is somewhat extreme in the opposite direction, asserting that "every other right must give way if life and health are in question." The position of Humboldt is moderate, compared with either, though in his own country and in his own time, his work was suppressed because of its intense liberalism.

We, in America, need not, however, be guided by old-world maxims. We have a charter which embraces whatever is necessary to man's welfare; "We hold these truths to be self-evident: that all men are created equal; that they are endowed by their Creator with certain inalienable rights, that among these are life, liberty, and the pursuit of happiness." There, then, we have the right of life co-equal with that of liberty. What farther need have we to seek for reasons why the State should be taxed to support Boards of Health, be they local, state or national: to enquire whether it is proper to place quarantine restriction on trade; to enact laws which, by pains and penalties,

1 *The Sphere and Duties of Government*, by Baron Wilhelm Von Humboldt. translated by Coulthard, pp. 125-127—London. 1854.

shall require the careless and ignorant to conform to well known hygienic rules? Certainly no higher authority need be asked. What worth is liberty without health and life?

But, notwithstanding this unlimited commission which we have, giving us plenary power in affairs of health, we should always, in considering any law, apply the principle promulgated by the profound Jeremy Bentham—"The greatest happiness of the greatest number:" and if this maxim is kept steadily in view, if laws only follow the paths in which this principle will lead, they will always lie within the domain of a democracy, or republic; but, should they swerve by one foot print, in so far they will tend toward oligarchy, monarchy, or despotism.

I will ask your attention but a few minutes more. I apprehend with these principles before us, there is no question of the propriety of rigid quarantine laws, of compulsory vaccination laws.

But when we come to consider such laws as relate to the regulation of the quality of drugs, and laws which prescribe and proscribe who shall and who shall not pursue the avocation of physician, then we are in turbid seas, and should be careful of our soundings.

Who shall practice the healing art? Shall the State say these may, and those may not and shall not? That we may examine this question it is not necessary to take up the thread of the history of medicine, and trace its devious windings from the schools of to-day to those of the days of Cullen and Sydenham, to Bologna, Salerno, Cordova, Rome, Alexandria, and Cos, back to the days when an intelligent medicine man cared for those who chose to request his offices. It is sufficient to know that at a very early period it was thought necessary to restrict the practice of medicine by law; for we learn from Diodorus, that "the manner of treating diseases in Egypt was fixed—all the precepts were contained in sacred books. The physicians were obliged to conform to them precisely, and it was not permitted them to change anything. If they could not save the diseased by following that method, they were not answerable for the result, but, if they rejected it, and the sick person happened to die, they were punished with death." (*Diod.* lib. I. p. 74.)

So long ago and so rigidly then did the Egyptians support the regular practice. But, we have to do with to-day.

Whether is it better, then, to permit each citizen to choose his own physician, or shall the State choose one for him, or at least say he can have no other than one of a certain number who bear a diploma or possess a license? Says Baron Humboldt: "Since, however, there are many things of which the correct decision requires a wholly special knowledge, and since, in regard to these, security might be disturbed, if any one should unthinkingly or designedly turn the ignorance of others to his own advantage, the citizens should have the option in such cases of applying to the State for counsel. The most striking instances of what I mean, whether we consider the frequent necessity for such special knowledge, the difficulty attending just discrimination, or, lastly, the magnitude of the injury to be apprehended, are furnished by those cases in which the professional services of physicians and advocates are put in requisition. Now in order to meet the wants and wishes of the nation in these respects, it is not only advisable, but necessary, that the State should examine into the qualifications of those, who destine themselves for such pursuits, provided they agree to submit themselves to its tests, and furnishing them with testimonials of fitness, in case of a favorable issue of the inquiry, to acquaint the citizens they can only confide wlth certainty in those who have thus been proved."

Now it is just this seal of approbation by the State that was intended to be enforced in the State of Ohio, in the early days of legislation. The State granted charters to medical colleges, required them to fulfil certain conditions, and then confer the degree of Doctor in Medicine upon those found worthy. But, what has been the result? Medical colleges have multiplied; doctors have multiplied; the State permits any set of men to form a corporation and call themselves a college; and the barriers to a degree have been so broken down that almost whoever chooses may pass without hinderance, and the possession of a diploma is little more than a bye-word.

Is it not right and proper, then, that this attitude of the profession to the public should be changed? Indeed, I think the people ask this of us. I believe if they knew, as we know, the position of affairs, they would with a million voices cry out for help.

It does, indeed, seem possible that some rule may be ar-

ranged which will apply to all modes of practice—not a retrospective or retroactive law, which will take from those already in practice, the privileges which they now enjoy, but one which will look towards the golden future, one which will apply a just test to new candidates for medical honors, which will cause the community to regard the profession of medicine with a greater degree of respect, and which, as the years move onward, will elevate the standards higher and higher.

Would such a law interfere with any one's private right? Undoubtedly it would. It would interfere with all those vile pretenders who are prepared to sacrifice the life of any provided their pockets are enriched. It would interfere with those ignorant persons who, unconscious of their own deficiencies, touch the delicate mechanism of human life with unskilled and awkward fingers. It would jostle on their foundations some old walls, weather-browned by storms, and moss-grown by time, which diffuse around an odor of antiquity. But little should we care for these. Such a law would act in favor of the multitude. It would promote "The greatest happiness of the greatest number."

Did time permit, it would be interesting, at least to myself, to pursue this subject farther, to inquire into the feasibility of a compulsory vaccination law, and the propriety of one controlling the quality of drugs.

However, it is far better never to make laws, than place them, however good, upon the statute books, there, by their non-enforcement, to be a continual sign of the indolence and incompetence of officials, or the degeneracy of public morals.

GLAUCOMA.

By S. C. AYRES, M. D., CINCINNATI.

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I do not on this occasion propose to open the much discussed and still unsettled question of the pathology of Glaucoma, but merely aim to call your attention to the fact that the diagnosis of this treacherous and always dangerous disease is often overlooked entirely. This seems the more surprising, when we consider its diagnostic symptoms are generally well marked, and its prominent characteristics recognized even without the aid of the ophthalmoscope. True, the inspection of the fundus oculi to detect the presence of retinal pulsations, confirms the diagnosis made from certain subjective and objective symptoms, yet it is also true that in many cases the ophthalmoscope is useless on account of the turbidity of the media. And this is unfortunately the case in the acute attacks of this disease. The cornea becomes so hazy and the aqueous so turbid, that an inspection of the fundus is impossible, and we have to fall back on general symptoms. The specialist, skilled in the use of the ophthalmoscope, is no better off than the family physician who first sees the case, except that he interprets the symptoms aright and is able to apply the correct remedy.

The more prominent symptoms of glaucoma are so masked and confused with those of neuralgia that unless he be on his guard the physician is apt to be misled, and to overlook the true origin of the disease.

We recognize two forms of glaucoma, acute and chronic

inflammatory, with two sub-varieties under the former, glaucoma hemorrhagica and glaucoma fulminans. As the two latter mentioned varieties are rare, I will confine myself to the two more common forms.

The dividing line between these two forms, the acute and chronic, is not always sharply drawn. The exacerbations which a person suffering from chronic glaucoma has, very much resemble the acute form, and the differential diagnosis must be left to the ophthalmoscope. But as practitioners in general are not yet sufficiently skilled in diagnosis of intra-ocular diseases with the ophthalmoscope, to recognize glaucoma, I propose to dwell particularly upon its objective and subjective symptoms. These are, in fact, in a great many cases quite sufficient to confirm a diagnosis. They are distinct and characteristic, and if I can aid any of you, who are unacquainted with this disease, in making a differential diagnosis between glaucoma and neuralgia, or anything else that may resemble it, I shall have accomplished my task.

I have undertaken to write on this subject for the reason that my opportunities for observation have impressed upon my mind the fact that many of these cases are treated for neuralgia until the period for surgical interference has passed. They then come into the hands of the specialist, who finds himself helpless to relieve a patient who might have been relieved earlier.

In acute glaucoma the prodromata frequently attract very little attention, particularly if only one eye is attacked and its fellow is sound. Persons have a dimness in one eye which passes off, in a few minutes in some cases and in an hour or more in others, and they attribute it to headache or indigestion, or some other equally satisfactory cause. These attacks may or may not be accompanied by pain. If there is pain, and it is severe, it is treated as neuralgia and apparently with success, for the exacerbation passes off and nothing more is thought of it until another attack comes on. There is a complete intermission of all the symptoms, which is one of the characteristics of acute glaucoma. If the eye were carefully examined, during an acute attack, it would be found that there was a decided episcleral injection; that the pupil was more or less dilated, and to a degree fixed—not responding to the influence of light; that the cornea was hazy, and possibly somewhat

anesthetic; the aqueous turbid; the tension of the ball increased; and that a halo was always noticed by the patient around the light. The ophthalmoscope would also reveal a pulsating central artery, if the media were clear enough to admit of an inspection of the fundus. Often, however, an acute attack is accompanied with intense ciliary neuralgia, with some febrile excitement and nausea, and great prostration, during which all the symptoms just described are greatly intensified.

In the more common—the chronic—form of the disease, the attacks of dimness come on periodically, and the interval between the attacks becomes less and less, so that in time there are only remissions without distinct intermissions. The power of accommodation fails rapidly, and persons have to use stronger and stronger glasses. The anterior chamber becomes very shallow, a halo is seen constantly around a light, and the field of vision inwards becomes obscured. The cornea becomes anesthetic, and you may touch it with a piece of paper or a feather, without causing the slightest sensation. The intra-ocular tension now becomes very great, and the ball feels as hard as a marble; and as this tension increases, and the pupil dilates more and more, and becomes fixed, the vision gradually fades out and we finally have a picture of hopeless glaucoma consummation.

In the confirmed cases, there will be seen a corona of enlarged veins around the cornea which are so characteristic as to be almost diagnostic of the disease. Now is to be seen the true greenish glaucomatous reflex from the fundus which gave the name to the disease at a time when the interior of the eye was almost a *terra incognita*. Not unfrequently cataract developes as the sight is failing, and the patient is lulled into security by a promise of a successful extraction as soon as it shall have matured.

While glaucoma is universally acknowledged as a disease certain, in course of time, to be fatal to vision, it is also an established fact that in the hands of specialists generally the success of the operation has been very satisfactory in acute as well as chronic cases, where the process of atrophy is not far advanced.

In ordinary acute cases, (except the hemorrhagic form) the prospect for a favorable issue of an iridectomy is very good, but, of course, the result depends on the time at

which it is made. If done early, before the glaucomatous tension has destroyed the integrity of the retina, we may look for a good result even although the sight is temporarily very much impaired. If delayed beyond a certain time we can promise but little. The necessity for an early recognition of the disease is apparent to all, as well as the necessity for the application of the only known remedy—an iridectomy. It makes but little difference to us how this simple operation checks glaucoma, we only know that it does so. Volumes have been written on the subject, and the question of the pathology of glaucoma is still being discussed. Whether it is caused by sclerosis of the arteries or alterations in the secretory nerves, or in the obliteration of the spaces of Fontana, or in a serous exudation into the vitreous, I will not stop to discuss; I only urge the early recognition of the disease and the necessary surgical interference.

As a practical illustration of my subject, I have collected fifty-two cases, and will give you the figures in a very few words: Of this number, eleven, or 21 per cent., were hopelessly blind in both eyes when first seen. In most of them vision was reduced to *nil.* In some, glaucomatous cataract had developed, and they were patiently waiting for its maturity in hopes of a successful extraction.

In seventeen cases, or 32 per cent., there was found chronic glaucoma in one eye, its fellow remaining sound. Of these, five submitted to operation; three of which were successful and two unsuccessful. Persons suffering with glaucoma in one eye, the other remaining sound, are loth to submit to an operation on the affected eye. They seem to prefer to take their chances on the sound eye, not appreciating their danger.

Where chronic glaucoma existed in one eye, and acute in the other, two operations were successfully, and three unsuccessfully, made on the acutely affected eye. It is only fair to say that of the three unsuccessful ones, two were of the hemorrhagic variety.

Of all the cases in this series, only six, or 11 per cent., were seen in the acute stage, the other eye being at the same time healthy. Four of these submitted to iridectomy, and the operations were all successful.

We have, then, nine out of eleven cases of acute glau-

coma, submitting to iridectomy, six of which are successful and three unsuccessful.

I will not give you, in detail, the results of all the cases, for I only wished to bring in contrast the cases of absolute and acute glaucoma. All of the former were, of course, beyond the reach of surgical aid, while two-thirds of the latter, which submitted to iridectomy, recovered good sight. This is a percentage in favor of the treatment which claims your earnest consideration. As good a percentage, if not better, of results could be obtained, if all acutely affected eyes were iridectomized.

Eserine in Glaucoma:—Within the past two years, the use of eserine in glaucoma has attracted much attention. Experiments with varying results have been made in this country and Europe. The well known effect of this myotic in diminishing the intra-ocular tension, seemed at first to give promise of excellent results, but they have been only in part realized. It has relieved, and probably permanently cured, some cases of acute glaucoma; but its influence on the sub-acute and chronic forms is either negative or sometimes positively injurious.

Dr. Knapp, of New York, in the *Archives of Oph.*, vol. 7, reports one case out of his extensive experience where eserine was successful in curing acute glaucoma. His conclusions are that it temporarily relieves acute as well as chronic cases, but that in the latter it is at times undoubtedly detrimental.

I have taken the liberty to report a case where eserine was used, and to give in detail its influence upon the eyes:

J. W. F., aged 53 years, merchant, is a well developed, healthy, temperate man. He has lead an active business life, but has never abused himself. His vision was always good until about a year ago, when his right eye began to fail. He had occasional attacks of dimness, accompanied with neuralgic pain, but paid but little attention to them as the left eye was still good.

It was not until last September (1878) that he had any trouble in the left eye. Then he had an attack of so-called neuralgia (?) in both eyes, which lasted for several days. The pain was more severe in the right eye than the left. He says he was blind for about ten days, and then his vision began to clear up slowly. In course of time his eyes so improved that he could attend to business, but he

had occasional attacks of dimness attended with pain, and he observed his sight had lately grown much worse.

Status presens, Jan. 16th, 1879.

Right eye; glaucoma chronica, + 2T., pupil considerably dilated, v. = 15–100, and reads 5 Sn. with + 15. The lower margin of the cornea presents a punctate or ground-glass appearance. The anterior chamber is very shallow. There is a strong retinal pulsation in the main trunks going upward and downward.

Left eye; the cornea is perfectly clear, the pupil is moderately dilated, and apparently more upward than in other directions, giving it an eccentric appearance. The anterior chamber is very shallow and tension is + 1. There is a strong arterial pulsation similar to that of the right eye. V. = 15-40 and reads Sn. 3½. At 11:10 a. m. a solution of eserine, gr. j. ad ʒ ij, was instilled in each eye, and at 11.30 an ophthalmic examination was made, which revealed the interesting fact that the pulsation in the left eye had ceased entirely, while that in the right eye remained unchanged.

The vision in the left eye increased to 15-30, and in the right eye remained as before. With am 42, axis 90°, v= 15-20 l. e., and 15-70 almost r. e. He was also able to read Sn. 2½ with left eye. The tension, by the ordinary finger test, was not diminished in either eye.

At 3:30 P. M., the vision was as above recorded, but the ocular tension was unmistakably diminished in both eyes, and patient expressed himself relieved, and said he could see things around him more clearly.

Jan. 17th, 10 A. M.; vision was found to be the same as yesterday afternoon. There was no pulsation in the left eye, and tension was about normal, while that of the right eye was +1.

Second instillation of eserine, at 11 A. M., v= 15-20 l. e., and with am 60, axis 90°, v= 15-50 r. e.

At 3 P. M., was seen again, when he stated that since the last examination this morning he had had severe pain in the right eye, which was now subsiding, and that there had been decided dimness of vision, but that it was now clearing up. Vision in right eye = 15-200, but in left eye the same as this morning with no increased tension.

Jan. 18th, 10 A. M.; V.= 15-100 r. e., and 15-40 l. e. There was no pulsation in the l. e., but that in the r. e.

continued as usual. Eserine was now used for the third time, and in half an hour vision of the l. e. increased to 15-30, while the r. e. remained stationary.

At 3 P. M. he reported that since morning he had had violent pain in r. e., and it was found that vision was reduced to 5-200. The tension was greatly increased and the pupil dilated *ad maximum.* Atropia was now used, and with marked benefit, for in half an hour the pain was much relieved.

Jan. 19th, 10 A. M., v. = 15-100 r. e., and 15-40 l. e. Right eye free from pain, but the diffuse opacity of the cornea, noticed the first day, now entended over two-thirds of its surface. There was no pulsation in the l. e., and tension was about normal. No eserine used to-day.

Jan. 20th, 10 A. M., v. = 14-200 r. e., and 15-40 l. e. Eserine has not been used for forty-eight hours in l. e., and pulsations have returned, but are not so strong as at first. Tension is perceptibly above normal. Eserine was now instilled into l. e. only, and in thirty minutes pulsations had ceased, and vision had increased to 15-30. The right eye remained in *statu quo.* At 3 P. M., no change in either eye.

Jan. 21st: at 10 A. M., v. = 15-200 r. e., and 15-30 l. e. The cornea in r. e. is clearing, and no pulsations in l. e. At 3 P. M., same in both eyes. No eserine used to-day.

Jan. 22, 10 A. M.: In the r. e. there is a diffuse haziness of the cornea, extending nearly over its entire surface, and the ball presents an angry, injected appearance. V. = 15-200 in r. e. In l. e., v. = 15-40; pupil considerably more dilated than yesterday, and tension is + 1. Pulsations are again visible in l. e., and patient states that his vision is sensibly diminished since yesterday. A drop of eserine was now instilled in each eye, and at one o'clock P. M., a double iridectomy upward was made. Operation made without accident, but incisions were very slow in healing.

Feb. 6th: First ophthalmoscopic examination since the operation. No pulsation in either eye; cornea of right eye quite clear, but there are several hemorrhages in the retina. V. = 15-200 r. e., and 15-100 l. e., with Am 15, ang. 90°, v. = 15-100 r. e., and 15-50 l. e.

Feb. 14: tension normal in both eyes. Right eye does

not improve in vision, owing to the retinal hemorrhages. In l. e., Am 14, ang. 90°, ⌒ Ah 30, ang. 0°, v. = 20-20. Ordered same for l. e., and plane r. e. for distance. For reading ordered Ah 14, ang. 0°, ⌒ + 36 s. l. e., and + 36 s. r. e.

In carefully considering the influence of Eserine in this case, we may note the following interesting points:

In twenty minutes after its instillation, pulsation ceased in the left eye and vision increased from 15-40 to 15-30. Just how soon the ocular circulation was influenced, cannot be stated, but it might have been definitely fixed had examinations been made every two or three minutes. It is also shown that the controlling influence of one instillation of eserine lasted twenty-four, but not as long as forty-eight hours.

Its influence on the tension was not immediately evident to the test by pressure with the fingers, but became so in the course of a few hours. The vision in both eyes was unquestionably improved, as the patient expressed himself relieved of that foggy or smoky appearance so characteristic of glaucoma, and the examination with test type gave the results above stated. Upon the right eye, its effects were at first favorable, in diminishing tension and increasing vision. The second time it was used, however, it caused a violent exacerbation of all the glaucomatous symptoms. The same effects, only in a more aggravated form, followed its third instillation.

In conclusion I would say that from my experience I consider eserine a valuable agent to use in glaucoma, on account of its effects upon the intra-ocular tension. It undoubtedly has, in the great majority of cases, a favorable influence in the acute stages of the disease. It checks and controls it so as to enable the patient to gain time for the operation of iridectomy. To the practitioner, then, who is unwilling to operate himself, it especially recommends itself.

I would, with equal earnestness, warn you against the use of atropine in acute or chronic glaucoma. Several cases of the development of acute glaucoma from a single instillation of atropine are on record. Its effects are directly the opposite of those of eserine. While one relieves the intra-ocular circulation, the other impedes it and brings on those conditions so dangerous to the eye.

THE METRIC SYSTEM,

—BY—

J. F. BALDWIN, M. D.,

COLUMBUS,

PROFESSOR OF ANATOMY, COLUMBUS MEDICAL COLLEGE.

1879-20

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[NOTE:—Immediately upon the opening of the session of the Society, a number of *Charts* were suspended, by the Secretary, conspicuously upon the walls of the hall, and a quantity of tracts, entitled: "The Metric System in a Nutshell," and "Why should we Use the Metric System?", were placed by him upon the seats: both the charts and the tracts had been furnished him, with the request that they be thus used, by the Metric Bureau, of Boston, Mass. The Society met, there being an unusually large attendance. The charts were examined, the tracts read. An hour before the close of the last day's session, and while the attendance was probably as full as at any time during the entire session, the following resolution was introduced:

Resolved: That the Metric System of weights and measures be hereafter used, in expressing all measurements, in the printed Transactions of this Society; that all members presenting papers be requested to use this system in such papers; and that the individual members be requested to use this system in their practice.

An opportunity for remarks being offered, the writer arose, not to oppose, nor yet to advocate, the system, but simply to present the subject in such a manner that the members might vote intelligently.

At the conclusion of his remarks, which were received by the members with the closest attention, and with repeated indications of approbation, Dr. Hyatt,* of Delaware, said that he entirely approved of every word that had been spoken: it was just such a speech as he had wanted to have made, and he was satisfied that it was from lack of just such speeches that other State Societies, and the American Medical Association had been led to nominally approve of and adopt this system. Wherever it had been thus adopted, in this country, it had, as he had predicted, brought confusion. He had examined the system for himself, and was opposed to it.

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*Professor of Materia Medica, Columbus Medical College.

Dr. Herrick,* of Cleveland, said that he had been highly pleased with the gentleman's remarks; that they were very opportune, and just what he himself had felt like making, but lacked the necessary facts and figures. He moved "that the speaker be requested to embody his remarks in writing, as nearly as may be as he has delivered them, and that the article thus made be printed in the Transactions." This motion was amended by Dr. Pratt, of Mt. Sterling, by adding that "in order that the paper may not be buried in the Transactions, copies be sent by the Secretary to the medical journals, with the request to publish." Amendment, and motion as amended, were both carried unanimously.

The question then being upon the original resolution, it was decided unanimously in the negative; *unanimously*, not merely because no one voted for it, but because every one voted against it.

In compliance with the request of the Society, the following article has been prepared, with a strict adherence to the spirit, and, so far as may be, to the letter of the delivery.]

I wish to occupy your attention but a very few moments. Resolutions similar to the one just offered here, have, as you know, been adopted by the American Medical Association, by a number of State Societies, and by numerous local organizations. We are now asked to adopt the same. Before the vote is taken, however, I wish, in order that each one may vote intelligently, to explain briefly what this system is, and just what is implied in its adoption. In the course of my remarks, I shall frequently draw from a paper on the *Metric System*, in the April number of the *Popular Science Monthly*.

The metric system is based on the *meter*. When the meter was agreed upon as the unit, it was supposed to be, by actual measurement, one ten-millionth of a quadrant of the terrestrial meridian of Paris. The men who had charge of this survey, had the audacity to suppose that their instruments were accurate, and that they could use them with accuracy. They forgot that accuracy is an attribute of Infinity, and not of the finite. The first survey was, as was to have been expected, soon pronounced incorrect, and therefore the meter, being no longer an exact subdivision of anything, lost at once its claims as a scientific standard, and became as much an arbitrary unit as our familiar yard. This unscientific and arbitrary unit equals 39.37079 inches, *plus*. This is the unit of length.

The unit of weight—the *gram*—is the weight of a cubic centimeter (hundredth of a meter) of water. This equals 15.43234874 grains, *plus*.

*Professor of Principles of Surgery, Medical Department University of Wooster.

The unit of capacity—the *liter*—is the cube of a decimeter (tenth of a meter). This holds 2.1134908 pints, *plus*.

The unit of space—the *stere*—is a cubic meter, and equals 35.386636 cubic feet, *plus*.

The unit of land measure—the *hectare*—is ten thousand square meters, and equals 2.47114 acres, *plus*.

The commercial unit of weight is the *kilogram* (one thousand grams), and equals 2.20462125 pounds avoirdupois, *plus*.

The significant "*plus*" connected with each of these units, not only shows that there is nothing in common between the two systems, but also serves to indicate the feeling of incompleteness, of uncertainty, of inaccuracy, which must attend all attempts at reducing one into the other. But I will return to this point further on.

Before passing to the consideration of the practical aspect of the question, I wish to speak briefly of its theory: In the first paragraph of one of the tracts, of which you have all received copies, *I* am quoted as saying that, "In commerce, where we are dealing with large quantities, and where long columns of figures, whether expressing weights, measures, or money, must be added up, and the amount multiplied, divided, or otherwise treated as an arithmetical factor, the metric system is a perfect marvel of elegance and symplicity." (That the writer of this tract calls me "the most virulently conservative exponent of the vis inertiæ of egoism," is not pertinent to the question. Epithets are not arguments.) This "elegance and simplicity," however, are due to the decimal character of the system, and not to the meter. But in the writing of prescriptions, each quantity stands by itself and is subject to no further arithmetical processes, and hence even the decimal system here possesses no advantage over the other. Decimals are advantageous in large transactions, but are unnatural in small ones.

We are told that the adoption of this system will "save a full year of the school life of every child." That statement, gentlemen, I think is one of those glittering generalities which you will find scattered throughout these tracts, and which will not bear rigid scrutiny. The adoption of this system will serve to simplify *Compound Numbers*, and some problems in Mensuration; no more, no less. I have

taught school: many of you have taught school: I have talked with teachers on this subject, and I have only this to say: that, although this is a Boston tract, and I am not prepared to vouch for Boston teachers or Boston pupils, yet, so far as Ohio teachers and Ohio pupils are concerned, one quarter of this time is ample. But suppose it does require a year, what of it? We study Latin and Greek at College for five or six years: not because we expect to use those languages in practical life, but because their study gives us that discipline of mind, that culture and training, which shall serve us so well in after life. I have children that I must educate, and I would not, for the world, deprive them of that "year of school life," which is to develop and train their reasoning faculties by their thorough mastering of Compound Numbers.

Again: this Bureau tells us that.

"In 1860 the foreign business of the United States equalled $792,000,000. Of this, $700,000,000 was with nations using the metric system, and that, too, before Germany had adopted it." Yet I find, from the report of the *Chief of the Bureau of Statistics on Commerce*, that our business in that year with Great Britain and her Provinces *alone* amounted to over $416,000,000, while in 1878, with a total of $1,132,000,000, our British transactions alone amounted to over $630,000,000.

This Bureau tells us that "every civilized nation has adopted it, except Russia and England." Yet from the report of the chief of engineers we learn that Switzerland, Sweden, Denmark, and Austria have not adopted it.

This Bureau tells us that "It is exclusively used by the U. S. coast survey." Yet the Secretary of the Navy reports that the adoption of the system would cause a total loss of all the charts and chart-plates, now in use, and would also prevent that free exchange of charts with England which now exists and which is so essential to our navigators.

This Bureau tells us that "in England it is legalized, and makes annual progress in the British Parliament." Yet by act of Parliament of last winter, the system has been, since January first, not only not legal, but absolutely *il*-legal, in England. This may be progress—real progress, but it is not the kind meant by this Bureau, nor the kind which it loves to herald. Indeed, it will probably not an-

nounce this adverse fact at all; any more than, should this society decline to adopt the system, it would candidly publish that fact also.

The truth is, gentlemen, this Metric Bureau seems much more anxious to introduce the system, than to arrive at the mere truth; and we may well look with some degree of suspicion upon the boasted disinterestedness of these notoriously thrifty Bostonians, when we find them founding their strongest arguments on statements that, to say the least, seem carelessly, if not scrupulously, inexact.

Practically now, what will be the consequences of the proposed adoption? The consequences so far as the general public is concerned, may be summed up briefly as follows:

1. The new units are not, in most respects, as convenient as our old ones, while the subdivisions are unnatural. We naturally divide into halves, quarters, etc., but never into tenths.

2. Our commercial relations with Great Britain, which are of paramount importance to us, wlll be seriously interfered with.

3 All our charts and chart-plates, which have been obtained at such an immense outlay, must be thrown aside, and all exchange of charts with England must at once cease.

4. A radical change must be made in the putting up of packages, which are now sold, ready-packed, in pound or ounce, or yard or foot, packages.

5. In manufacture, all our guages, dies, lathes, screws, augers, chisels, machinery of every description, are made with the inch as the standard. All this must be changed, and at a cost of much money and confusion.

6. But it is land measurements that the most dire confusion will manifest itself. We buy and sell land, by the front foot in cities, by the acre in the country. All our deeds and mortgages must be overhauled, the measurement by chains, &c., rectified, and the contents, in the one case, obtained by dividing the number of acres by 2.47114+ (the hectare,) and, in the other case, the frontage obtained by reducing our present measurements, in feet, to inches, and dividing by 39.37079+ (the meter). Instead of a lot with a frontage of 60 feet, there wlll be a frontage of 18.287669614 + meters; that "+" repre-

senting a column of figures extending, like Banquo's mirrored descendants, "to the crack o' doom," and furnishing ample ground for many a legal Shylock to hang a case upon.

While this system would answer in the laying out of new lots and farms, the attempt to use it in already settled communities, can but result in inextricable confusion and interminable law suits. Yet all this is implied in the *adoption* of the system.

So much for general considerations, in which all are equally interested. Now for considerations of a more special nature, embracing the medical aspect of the case. It is claimed for this system that its adoption (1) will secure uniformity with the metric nations; (2) will from its so-called greater simplicity—as it has but a single unit, the gram—cause fewer mistakes in writing and filling prescriptions; and (3), according to no less an authority than the N. Y. *Medical Record*, will prove convenient in calculating and altering formulæ.

This last advantage can hardly be regarded as other than fanciful. The formula given, by the journal alluded to,(and which, by the way, is metrically incorrect,) was designed to show how easy it is to alter a metric prescription for an adult into one for a child. Of course they may do these things differently in New York, but we of Ohio, I take it, are not in the habit usually of getting up an elaborate prescription for the head of the house, and then modifying the same for the junior members by the "rule of three."

As to the matter of *uniformity*, we differ from the nations of Continental Europe in language, literature, laws, customs and politics: is it of very grave importance that we shall not differ from them in pharmacy? But in a matter of this kind, it will certainly be considered fair—since we are the ones interested—to resort to the *argumentum ad hominem*:—How many members of the Ohio State Medical Society, or of any other State Society, or even of the American Medical Association, read French or German medical periodicals, or other medical works, in the original? How many will travel in those countries? How many, finally, will know, or care, whether one system or the other

is in use in those countries? We read English and American books and journals, and these use the old system.

This is the practical, and the only correct, way to look at this question: will uniformity benefit the mass of the profession? Will it benefit you and me? Or is this simply another glittering generality, designed merely to catch the unthinking?

Finally, as to the vaunted simplicity of this system:

It has, so far as we as physicians are directly concerned, but a single unit—the *gram*—which, as I have already said, equals 15.43234874 grains, *plus*. This is the unit, whether we prescribe powders or liquids; for, says the German Pharmacopeia, "Mensuris *nunquam*, sed *semper* ponderibus liquorum quantitas indicanda et determinanda est." This is the method used by Continental physicians, and is the method which we must use if we would be uniform with them. This is the method advocated by the New York *Record* and by the Boston Metric Bureau. The *Chicago Medical Journal and Examiner*, however, is championing a "system" in which liquids are prescribed by volume instead of weight: while in Philadelphia it is proposed to use a "system" in which all quantities, of both solids and liquids, shall be expressed by *weight*, and then, in order that there may be a certain and assured volume for bed-side administration (in "teaspoonful" and "tablespoonful" doses, etc.), enough simple syrup, or other menstruum, is added to make a certain quantity by *volume*.

We thus have presented to us three different "systems," each "metric" in name, each, probably, good enough of its kind, yet, altogether, threatening us with a condition of most undesirable confusion.

Again: I have already mentioned the feeling of inexactness which must accompany the attempt to change doses from the old system into the new, owing to the fact that there is nothing in common between the two. We are told that we may regard ℥j as equal to 30.00 grams—an error of four per cent.; grs. xv as equal to 1.00 gram—an error of three per cent.; and gr. j as equal to six centigrams (0.06)—an error of eight per cent. This feeling that we are giving *about* so much of each drug, is not a particularly pleasant one.

If we adopt the "system" in use in Europe, we must prescribe everything *by weight*. In writing a prescription,

we determine first the size of the dose we will give, and next the number of doses. The first, multiplied by the second, gives us the amount to be set down in the prescription. It becomes necessary to know the bulk that the mixture will make, in order that we may know how many doses, of a teaspoonful or tablespoonful each, it will make. If the same weight, as an ounce, of all liquids gave us the same bulk, there would be no difficulty in prescribing by weight. But as such is not the case, as the relative weight—the specific gravity—must be taken into account, it becomes necessary to know the specific gravity of each liquid prescribed, in order to prescribe accurately.

For illustration: according to Prof. Maisch—one of the editors of the *National Dispensatory*, the specific gravity of ether is .750; ether fortior, .720; spir. etheris comp., .815; spir. etheris nit., .837; glycerine, 1.25; syrups, 1.317; chloroform, 1.48; while the fluid extracts vary so widely that "no reliable rule can be given for their relative proportion of weight to volume."

But we are told by these Bureau tracts that "not enough chloroform or ether is included in any one prescription" to do any harm, even if the weight is not considered; while infusions and tinctures (and, presumably, fluid extracts) "may be regarded as identical in weight with water," and the glycerines and syrups "as one-third heavier."

These again are glittering generalities; now for a few practical and bare particulars:

The New York *Medical Record*, to the prominent position of which, as a leader among medical journals, I need not allude, some two years ago, strongly advocated the adoption of this system. It gave a formula to illustrate the simplicity of the system, in which, owing to its neglect of this matter of the weight of syrups, *it made an error*, according to this rule of the Bureau—the rule itself, however, being, at least practically, erroneous—*of not less than* 33⅓ *per cent.* And this error was made, too, by a writer who had investigated the subject sufficiently to write *four consecutive articles* upon it! If a leader in the profession is liable to thus err in using the system, what will not the rank and file do when they come to use it?

The *Record* regarded 30. grams of syrup as making a fluid ounce; the *Bureau* tells us it takes 40. grams; the

Chicago Medical Journal and Examiner, in its standing head, tells us it takes 43. grams. Now how is *this*, practically? I have tested the syrups, as prepared for dispensing by six of the principal druggists of Columbus, taking four syrups in each case, and I found that the heaviest specimen weighed 39¼ grams to the ounce, and the lightest 33¾ grams; the average weight being 36.6 grams. The extremes were found in the same syrup—tolu. So, if we of Columbus adopt the *Bureau* rule, we have an error of nearly 10 per cent., while the *Chicago* rule would cause an error of 17½ per cent.

In truth, gentlemen, the degree of ignorance betrayed by, at least some of, those who are "adopting" this system, is marvelous, is pitiable, is disgraceful. Thus the New Orleans *Medical and Surgical Journal* tells us that:

"In future, *The Medical Tribune* will employ the metric system in its formulas and calculations. The civilized world has generally adopted it, and we propose to continue with that class of the human race. It is high time to do away with the scruples, drachms and ounces, and the confusing ciphers (℥ ℨ) of apothecaries' weight. The unit of weight is the gram, equivalent to 15.433 grains. The half-dime token (nickel) weighs a gram, and is a *metre* (39.369 inches) in diameter. Contributors reporting cases or formulas, will help us by conforming to the new scale."

The Toledo *Medical and Surgical Journal* copies this without a word of comment.

We have here then the humiliating spectacle of three medical journals telling us that the familiar "nickel" is *over a yard* in diameter, and that it weighs 15 grains (+); when, as as a matter of fact, it weighs almost exactly *five times fifteen grains*. Suppose some doctor or druggist should undertake to dispense some powerful drug, using the nickel at a gram weight! Perhaps some of these erudite editors, who have done away with the old familiar "confusing ciphers," have already tried it. If so, they should give us the benefit of their experience.

One patient has been already killed by this system—grams of laudanum being dispensed when centigrams had been prescribed; and a prominent Broadway [N. Y.) drug store put up in four powders, six *decigrams* of morphia, instead of six *centigrams* as written—making each powder

contain 2½ grains, instead of ¼ grain. Fortunately, the doctor discovered the mistake.

Two years ago I wrote; "The adoption of the metric system will give us confusion worse confounded.'" Was I, or was I not, correct?

But, you may ask, are not these objections largely theoretical; and will we not, as we come to use the system, find all the objections to vanish, and that the system is really as simple as its advocates would have us think it is?

I reply; I have used the metric system, as it is used in Europe—prescribing everything by weight, for over a year. How many prescriptions I have written in it, I do not know. I am, I believe, the only physician in Columbus who uses it, and about a dozen of the principal druggists have felt the necessity of supplying themselves with the weights; which they have, in most if not all cases, obtained from this thrifty bureau.

During this time, I have made no mistakes in the writing of prescriptions: several errors have occurred in the filling, but none of a serious nature.

The principal trouble I have had has been in the feeling of uncertainty when prescribing liquids, as to what would be the bulk of the resulting mixture. The familiar "*q. s. ad* —," of the old method, sufficed to make the mixture equal a certain bulk: but the new system, at least as used in France and Germany, has no such convenient device. Not only does the difference in specific gravity lead to inaccuracy, but the various solids that are added also effect the bulk, to a greater or less degree: so that it is impossible to predict, with anything like the degree of accuracy desired, the amount of medicine the patient will get.

This inaccuracy may be but a mere *bagatelle* to the visionary and transcendental Bostonian, but to myself it has always been a source of very uncomfortable solicitude, and I judge that I am not alone in this, since our friend Dr. X. C. Scott,* of Cleveland, who I am sorry was called home suddenly last evening, told me in conversation yesterday that after using the metric system for three years, while pursuing his studies in Europe, he was glad to return to a country where he could use the more reliable methods of the old system.

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* Professor of Ophthalmology, Cleveland Medical College.

If we adopt the *Chicago* metric system, and use cubic *centimeters* for all liquids, the objection on the ground of inaccuracy will no longer hold. But this method will at once destroy that uniformity with Europe, which, to my mind, constitutes the only real argument, weak as it is, in favor of this system.

So far as my experience goes, then, the metric system possesses no advantage over our old method of writing prescriptions, (save the scarcely tangible one of uniformity with Europe,) while it does possess several manifest and even obtrusive disadvantages.

In conclusion, gentlemen, I thank you for the close attention which you have given me, and for the manifest interest you take in this matter. I do not want to be regarded as an advocate: what I have said I have tried to say in all fairness. I want merely that you shall vote intelligently on this question.

Let resolutions, relating to some matter about which the members know little, and, therefore, to which they feel no special or personal opposition, be presented to any convention, in a neat, well turned, plausible speech, and the chances are a thousand to one that those resolutions will be "adopted" unanimously. I, therefore, want discussion, fair and earnest, that whatever action *this* Society takes, we may be able to defend it.

The question is fairly before you. Will you abandon the old system, which has stood the test of a thousand years, or will you not? Will you adopt the new system, which, as spasmodically and hastily "adopted" by other bodies, is bringing such confusion, or will you not? Or will you, finally, await the action of some calm, deliberative, authoritative body—such as the Pharmacopeial Convention—which shall decide what is best, and, if a change shall seem desirable, when and how it shall be accomplished? Says Bacon, "Stand upon the ancient way, and look about to discover what is the best way."

REPORT OF COMMITTEE

—ON—

BENEVOLENT INSTITUTIONS.

By H. J. HERRICK, M. D., Chairman,

CLEVELAND.

REPORT OF COMMITTEE

—ON—

BENEVOLENT INSTITUTIONS.

By H. J. HERRICK, M. D., Chairman,

CLEVELAND.

Gentlemen of the Ohio State Medical Society:

Being one of the Committee appointed at the last session to report upon the sanitary condition, efficiency, and success of the Benevolent Institutions of the State, in meeting the wants for which they were created, I desire to make a partial report, or rather a review of them, with suggestions of certain changes, that have occurred to me, for the purpose of eliciting discussion on some of the problems which are yet unsolved, and also with the hope that this Society will appoint a Committee that shall embody such suggestions of improvements in a memorial to our Legislature for its consideration.

It is known by all that there is created by Statute a Board of State Charities, with defined duties of quite a general character, with reference to the condition and management of prisons, jails, infirmaries, hospitals, and asylums. I would hardly regard the field of my observation and inquiry as extended as that of this Board; but rather restrict it to the efficiency and sanitary condition of those institutions which look to the restoration of health, to mind and body, of those persons who have been brought under the care of the State for that particular purpose. It must be admitted, after a casual view of the subject, that the State has a large contract on hand, if fol-

lowed out according to its present plans for meeting these wants. To undertake wisely any large, or even small, work of charity, either individual or public, requires a great deal of study and consideration, that the largest amount of happiness may come to the giver, and no injury, but benefit, to the receiver. Without such consideration, applicants for charity may be multiplied without number, and society be actually injured by the aid given. Provide a place where all my future wants may be secure, and I am not going to exert myself, though the provisions you make may not be quite to my taste. In consequence of the lack of necessity for personal exertion, one loses all ambition for excellence and virtue; becomes imbecile, prepared to accept as a matter of course, as due, what has been provided. Man is generally as lazy as he can afford to be.

But, I do not intend by these assertions to imply that hospitals, infirmaries and asylums should not be established; I do mean to imply that the State should hold out these aids only to the unavoidably unfortunate. It should guard against the abuse of this benevolence. The five or six large hospitals for the insane, the county infirmaries and hospitals for all classes of invalids, bear testimony to the large-hearted sympathy which moves our people, but their management and control are a reflection upon our judgment and wisdom. The buildings are mansions with all the appointments, and even luxuries, established in the most healthful localities and according to the best principles of architecture, with observance of the principles of sanitary science. Having special reference to the hospitals for the insane, we find there are now in such institutions, under the State control, between four and five thousand patients, with perhaps as many more at the county infirmaries, or at their homes, asking for an equal distribution of this promiscuous charity. The institutions are all full. They have been built at an expense of from twelve to fifteen hundred dollars for each patient; there, all classes are received and provided for sumptuously, where, in the majority of cases no doubt, they have gone from the most limited provisions for their daily wants, and are there from self inflicted abuses.

An examination of the subjects who are treated at the insane asylums, the success of the treatment, and the mul-

titude of applicants for relief, compel us to ask if, after all, our theories of benevolence and reform are well founded. We have no purpose to question the faithful management on the part of the officials under the method adopted, and the means furnished, for, so far as our observations have been made, under the plan of operations, the management has been efficient and faithful, and all that could be expected. It becomes evident that the State has something to do besides making provisions to receive and care for the army of insane, imbeciles and epileptics, if it proposes to do its whole duty to itself and its subjects. It must enquire seriously after the causes of the various infirmities for which it seeks to provide, and must put them away by wise legislation and then apply intelligently all the means at command for the restoration from those infirmities which are unavoidable and justly entitled to the most kindly aid of charity from a christian people. It should open the way for the use of any and all means for the reclaiming of those who are bound by the unyielding bonds of evil habits, following its beneficent purpose as well in protecting from the besetting sin, as in striving to reclaim, those who are brought under an unrelenting bondage.

By examining the annual report of the Superintendent of the Cleveland Asylum for the Insane, for the year 1878, we find authority for the following facts:—Total number of patients under treatment for the year, 770; average number under treatment, 581. Of these 170 were discharged during the year, 84 of whom were recovered; 40 improved; 26 unimproved; 10 died; 1 not insane.

The record shows only 84 recoveries, out of the 770 treated during the year. Authorities differ somewhat as to the ratio of recoveries under judicious treatment soon after the insane state appears. Maudsley estimates the chances as 4 to 1, if treated within three months from the beginning; if treatment is delayed twelve months, the ratio is reversed, being 1 to 4. Dr. J. Thurman places the ratio of recoveries from the first attack as high as 50 per cent., or one-half of all cases from all causes. Drs. Bucknill and Tuke place the prognosis for the recovery in all cases from 40 to 45 per cent. We make reference to this fact in this report, not to reflect upon the success of this institution, for in this respect it compares well with other institutions of this and other states. Our object is

to note the fact and from it inquire whether these asylums are, after all, meeting the object for which they were created; viz: The recovery of the patient, and if not, why not? This record of recoveries is certainly not flattering to our boasted science. In our visit to the institution, we find the most perfect arrangements for ventilation, indeed no endemic has ever visited this asylum, so complete has been its arrangements to guard against infection. We also find every provision apparently that can be secured for the wants, comfort and happiness of the patients. The same is true (as I am informed) of every other asylum in the State. Yet recoveries are few, and the insane are multiplying so that the labor or duty of providing for this class of unfortunates after this manner comes to be a very serious question for all lovers of humanity in particular, and the State at large financially. We are compelled under this statement of facts to ask if, after all, the true status of asylums for the insane has been fixed? Different schemes have been, and are now, in vogue in different countries and states, which will yet throw light upon the unsolved problem as to the best and most successful plan of treatment to be adopted.

With these preliminaries as to the apparent failure of these institutions in meeting the want for which they were created, we venture some suggestions of reform which are not new or original, but which seem to have good foundation for their support.

In the first place, has the State done its whole duty to obliterate the causes of insanity? We now agitate, in medical converse, and by periodicals, State legislation in behalf of sanitary science, as it pertains to the various surroundings of malarial and septic influences; but do we not neglect, even to our shame, sanitary teachings and regulations in our social relations? The Health Commissioner seeks out the lurking places of the germs of yellow fever, typhoid fever, and diphtheria, whose victims are many to be sure, but does he not neglect entirely many of the potent agencies that fill our insane and idiotic asylums, retreats, work-houses, infirmaries, jails, and prisons, many of which are, to a certain degree, preventable? The philanthropic heart is exhibited in all these provisions; and yet the wants are all meagrely supplied. Throngs are ready to offer themselves as candidates for the hand of

charity. Is there not wisdom in stopping to consider whether, by judicious legislation, we might not reduce the number greatly of the army who are but too ready to throw themselves upon the tender charity of others?

By a glance at the reports of the asylums for the insane, we find among the most prominent predisposing causes, hereditament, a condition which at first might be thought to be beyond the reach of legislation; but a little reflection is sufficient to convince us that many of the ills acquired by hereditary influence are, in the original, subject to restraint or control. In visiting the ward of the incurable insane of the County Infirmary of Cuyahoga County, our attention was called to a family brought under care, with these facts, as given by the steward of the institution:

Three brothers and one sister were confined in that institution, and one brother was still at the asylum at Newburg. The predisposing cause was intermarriage, the exciting cause being masturbation. The father and mother were represented as being first cousins, and the grand-parents, on one side certainly, cousins,—and here were the progeny.

By statute such marriages should be prevented. Indeed it comes to be a very important question whether the State should not go farther in supervising the marriage relation. What should be the scope of this supervision, it is not at present my purpose to consider.

Another and most fruitful cause, directly or indirectly, of insanity is intemperance. That inebriety is an exaggerated appetite, due to the excessive indulgence in alcoholic liquors which results in producing a disease, no one will question; though we must admit that inebriated proclivities may enter into the problem and throw the origin of the appetite, to a certain degree, back upon the ancestor. The victims of this exaggerated appetite, cannot, as a rule, cure themselves. The whole momentum of passion is against their regaining themselves. The will has lost its authority. Under this condition, should not the protective influence be furnished? If sanitary science looks to the prevention of disease, is there not here a slough, a miasm more destructive than any other that threatens? It is not only our insane asylums that are peopled from this source, but also our hospitals of all varieties, our infirmaries, orphan asylums, jails and prisons.

This field, in a scientific sanitary point of view, so far as I am informed, has been much if not entirely neglected. The reports of all the asylums at my command, as well as the different standard authorities, class intemperance directly or indirectly as the most common physical cause of insanity. This is a fact. Asylums are being multiplied at a large expense, and still there is not room to provide the necessary relief. Beyond question if this agency was suspended from adding more to the list of the insane, we have more thon ample accommodation for all the insane from other causes. Yet our law makers disregard entirely the cause. I know this theme is old, and we would urge it at present only as connected with sanitary agencies. Here it meets us as physicians, and has been too much disregarded as a preventable measure.

The source of the most potent influence for the suppression of this curse, lies in the medical profession, and it is to be hoped that the work of reform will here be taken up in earnest, so that not only the profession but the entire people may see it as it really is, and act wisely for its removal as a sanitary measure which *always* has authority.

The next most frequent cause of insanity, if indeed it is not the most frequent, is masturbation. If we include the disorders of the reproductive organs as a whole, we find here by far the largest group of causes. Whether it is possible, by judicious legislation, to institute such an exclusion of obscene literature and pictures, such a course of instruction to the youth as to the dangers arising from such practices, it is not my purpose to inquire. It is perhaps sufficient at present to allude to this vice as one of the most frequent causes of disease, imbecility, dementia and death, and as such meriting a most judicious inquiry whether there may not be some safeguards that shall aid in its suppression. The matter must and does rest largely with the parents. Yet it would seem that in connection with our boasted system of education, there might be such a course of instruction, in physiological principles to the sexes, as would materially lessen these abuses. It is my professional observation that often young men acquire the pernicious practice ignorantly, when timely warning and instruction would be heeded.

Immediately connected with this subject is the treatment that should be applied to those who are now under treat-

ment in the asylums, or supported at the infirmaries, simply fed and kept in idleness and allowed to perfect their self destruction by this low and beastly practice. Would it not be a most wholesome relief to the overcrowded institutions in all such cases as do not absolutely give promise of reform, to apply the radical, but effective, method of castration? Such a treatment, without an expression from the profession and without authority by statute, would not be adopted, yet it would seem that such an effective and common-sense treatment should not have been so long neglected, both for the interest of the patient and the welfare of the State. We were told by the superintendents and physicians of our asylums and infirmaries, that from 70 to 80 per cent. of all their patients are there as a result of the two causes mentioned. They are often reduced to a condition of beastiality by their own hands which should not, and does not, entitle them to the sumptuous and even elegant provisions furnished by a philanthropic people: and that not with any hope for effecting their cure. We, as physicians, and taxpayers particularly, have a right to inquire into this method of perpetuating vice under the guise of State charity.

In this general review of the work and success of the insane asylums, we are impressed with certain errors in judgment, as to the plan of meeting the wants. That a gradual but manifest revolution has taken place in the views of psychologists, as to the provisions and requirements for the insane during seclusion, is the testimony of continental authors. As a result of this change, asylums are assimilated in their arrangements to ordinary dwelling houses. It is also proposed to place cottages in the immediate vicinity of an *infirmary*, where the insane may have more special care as their condition might require. We are informed of the adoption of this plan in some of the states, with marked success. Some such an arrangement with an expense of three or four hundred dollars per patient, with a physician to every fifty or one hundred patients, who could give each cases special consideration, would, on a casual view, promise the most for the recovery of the patient, and be a great economy to the state. Most counties have farms where the poor are provided for. In connection with, though distinct from, the infirmary, cottages might be built for the insane. Or, if the county

is too small, let two or three counties join in carrying out such an arrangement. The objection urged against this plan would be, that the employment of physicians for each county or district with this duty would add largely to the expenses, and also be likely to give the care into hands not so expert as the present system. But to this the reply would be that each county now employs a physician to take care of the infirmary; if he were selected with reasonable care as to qualification, the selection being separated from the shifting fortunes of politics, this objection would be removed.

Under the present arrangement, the superintendent, with two or three assistants, takes the charge of from six to eight hundred patients. The superintendent, who is, or should be, selected with reference to his special qualifications, is given the entire responsibility; when he becomes to a large extent only an executive officer, the professional duties of the institution falling upon a limited number of assistants, who are often young men just entering upon professional life, with limited experience but as general practitioners, which would seem especially necessary for the treatment of the variety of phases of mental alienation in these asylums. Moreover, it would seem to me as utterly impossible for the number of physicians employed to give the necessary attention to each individual case. The treatment must be very general. Let one physician have constantly on hand for treatment twenty-five to fifty patients daily, and if each case receives the special consideration which it deserves, he has a hard task, and all that he can well do.

We observe in the *Medical Record*, of May 10th, in the editorial, under the head of "Insane Asylum Reforms," the same criticisms on the present management, though our thoughts had been under consideration before this article appeared. The article is given upon the appointment of a staff of attending physicians to the Hudson River State Hospital for the Insane, at Poughkeepsie, in which the author very properly condemns our present system, as tending to make the office of medical superintendent "more that of an architect, civil engineer, business manager, and farmer, than a practical clinician." At the above institution, it seems, a new plan has been adopt-

ed, which the *Record* speaks of as similar to that of general hospitals.

Other practical questions were suggested to our mind in our visit to the asylum at Newburgh. Most of the patients are confined in the wards from day to day, and from week to week, being taken to the chapel for such change, amusements, and devotional exercises, as are afforded; or are allowed the liberty of the grounds at stated times, are allowed to apply themselves to work, at such labor as they are inclined to do. No doubt this treatment, of close confinement, is best for a class, yet without question work which would be adapted to the different ones, particularly out-door manual labor, would be a most wholesome restorative to very many. I believe there is a large redeeming element in work, under proper regulations and adaptations, even to these unfortunates. We regard the blood as the medium of all restoring elements; but it is appropriated more rapidly, and interstitial changes are quickened, by active, judicious exercise of the different parts of the body. This is, no doubt, with reason the prime law of redemption; the ancient penalty for transgression is not more a penalty than a remedial agency, imposed by a beneficent Creator. In our county infirmary where one hundred and twenty incurable insanes are confined, a number have been put to such out-door work as they were adapted to, with the result of curing them of their insane delusions, in a number of instances.

We are conscious that this treatment is liable to abuse, as indeed any treatment is, and must be applied with judgment. Appropriate employment is worthy of a trial with a view of being a restorer, by way of affording a lighter occupancy of the mind and such physical stimulus to the body as shall tend to bring back that harmony of function between the different organs which constitutes health both of body and mind.

What empyrics call the "practical method," by rubbing, moulding and laying on the hands, by way of quickening vital changes, has a foundation upon physiological principles, which we would do well more often to call into use.

In presenting these reflections and suggestions with regard to this philanthropic provision for the unfortunate of the State, I have hoped, in this hasty and imperfectly prepared paper, to call attention to the propriety of the

State making a distinction between the unavoidably insane and those rendered so by their own vices; also to call attention to the most prevalent causes, and ask the question whether there may not be some judicious legislation which shall seek to go to the source and arrest the rapid increase of this unfortunate class. I have also opened the question of provision for, and treatment of, such cases in connection with, though separate from, the County Infirmary; also some practical questions as to treatment, which have no doubt received previous consideration by those in charge of asylums. If the State is to continue to provide for the insane, as it has, without seeking to remove the cause, or apply some more efficient and radical means of treatment, it will soon be burdened beyond endurance with the labor it has undertaken.

Philanthropy is a high and Godlike impulse, but it should always carry out its purposes by affording aid to duty without attempting to remove it altogether. It should have the kindly spirit of the dove, yet the sagacity of the serpent.

DISCUSSION.

Dr. D. A. Morse, Superintendent of the Dayton asylum for the insane, said that at the Dayton asylum all patients who were able and willing to work were allowed to do so, when the labor could be furnished. If the patients were required to labor, their friends would at once complain.

As to epileptics and the chronic insane, he did not favor the building of asylums for them, but preferred the system of detached blocks, as at Willard's asylum, N. Y., where the cost *per caput* did not exceed three to four hundred dollars. These blocks could be added to the present asylums, at comparatively small cost, and without additions to the grounds, administration building, gas and heating apparatus, laundries, drug-room, &c. The only expense would be for additional assistants and the maintenance.

Asylums should not have less than sixteen wards, for

the proper classification and treatment of patients. Successful treatment is principally moral, rather than medical.

From 60 per cent. to 70 per-cent. of acute cases, i. e., cases of less than one year's standing, should recover. Some authorities place it as high as seventy-five per cent.

Dr. J. A. Murphy, of Cincinnati, thought the committee should have recommended some measures which the Society could adopt and present to the Legislature, to prevent or control insanity.

"Intemperance is a principal source of insanity, yet the committee has recommended nothing. What shall we do—what shall we present to the Legislature—to the people? That is the question. Ohio to-day is laboring under the mistake of the people. Saloons, wine cellers, beer halls, &c., exist at every corner, and the respectable citizens are groaning under taxation in consequence. We, as the conservators of public health, must get the constitution of Ohio amended, so that the legislature may grant licenses."

For masturbation he would recommend castration. Masturbation was the result of the war, and also the result of education; i. e., the moral question had been left out of the education of the young: the sciences were taught, but duty to our neighbor, to God, to ourself, was left out.

We ought to touch the question which the Committee has not touched; we ought to have a committee—a standing committee—to bring our asylums out of the stinking pool of politics. These Boards of Trustees were about as fit for their places as he—the speaker—was for the charge of the astronomical observatory at Washington. If a man was a scientific superintendent, he had no time nor inclination for politics. He had spoken and written to gentlemen during the past year, *begging* them to keep their hands off our Insane Asylums. The trouble with our eleemosynary institutions to-day, is that they are cursed by politics.

The superintendents have too small salaries. They should have $3,000. The salaries of the assistants are also

too small. No inducement is thus held out to young men to fit themselves for places in these asylums.

There was but one house in the State, that he knew of, that had nothing to do with politics, and that was the Cincinnati Hospital. If a man uttered the word *politics* in that house, his head would fall into the basket in about one minute. Let the politicians fight over the *stewards*, if they must, but they must let the superintendents alone.

NOTE.

Dr. Thad. A. Reamy's paper, on Membranous Dysmenorrhea, was ordered published by the Advisory Committee, but the paper has not been received and the *Transactions* are, therefore, issued without it.

During the discussion which followed the reading of this paper, Dr. W. H. Mussey referred to a formula which he had found very efficacious in the treatment of all forms of dysmenorrhea. As quite a number of members were anxious to see the exact formula, and as we promised that it should appear in the *Transactions*, we re-produce it here.—[J. F. B.]

℞. Pulveris guaiaci resinæ.....
Terebinthinæ Canadensis.....āā ʒ j
Olei sassafras..... f ʒ ij
Alcoholis..... f ʒ viij.
Misce, macera per diem septem, et cola; dein adde,
Hydrargyri chloridi corrosivi..... ϑ j
Signe:—Take twenty drops in wine, or sweetened water, night and morning.

REPORT

—OF—

COMMITTEE ON OBITUARIES,

—BY—

P. M. WAGENHALS, M. D.,

COLUMBUS.

REPORT OF COMMITTEE ON OBITUARIES,

—BY—

P. M. WAGENHALS, M. D.,

COLUMBUS.

"DEATH IS THE SEQUENCE OF LIFE."

Our ranks have been invaded, and the following worthy and exemplary members of our association have been taken from our midst. They were gentlemen whose fidelity and zeal in the profession had won the admiration and confidence of every person with whom they had been associated. We mourn their loss, and here express our grief over their final departure from earth.

"And such is man, who lives by breath;
Is here, now there, in life and death.
The bubble 's burst; the look 's forgot;
The shuttle 's flung; the writing 's blot;
The thought is past; the dream is gone;
The water glides; man's life is done."

In Memoriam.

DIED:—At East Rockport, Cuyahoga County, Ohio, on December 10th, 1877,

JARED B. KIRTLAND, M. D.

aged 84 years.

He was a patriot, philosopher, scientist and scholar. His was a bright career, he led a life of usefulness and fully accomplished his earthly mission.

In Memoriam.

DIED:—At Urbana, Ohio, on the 27th of August, 1878

DUNCAN M. VANCE, M. D.,

aged 60 years.

He served during the war of the rebellion as assistant surgeon of the 2nd Colorado Cavalry. After being mustered out of service, he again resumed the practice of medicine in his native place, when he ended his earthly pilgrimage.

In Memoriam.

DIED :—At Toledo, Ohio, on March 9th, 1879,

THOMAS WADDEL, M. D.

His career was short but brilliant. He was an active man, an able writer, a profound scholar, and a good adviser. His every word and action reflected honor upon himself and his profession.

In Memoriam,

DIED.—At Cincinnati, Ohio, on January 14th, 1879,

LANDON R. LONGWORTH, M. D.

He was loved by his friends, honored by his associates, and respected by his profession. His career was short and eventful. He strewed jewels wherever he walked.

LIST OF DECEASED MEMBERS

—OF THE—

OHIO STATE MEDICAL SOCIETY,

—WITH—

DATE OF ADMISSION AND DATE OF DEATH.

LIST OF DECEASED MEMBERS

OF THE

OHIO STATE MEDICAL SOCIETY,

With Date of Admission and Date of Death.

NAME.	P. O. ADDRESS.	ADMITTED.	DIED.
Ackley, H. A.	Cleveland	1850	
Allen, Peter.	Kinsman.	1850	
Amos, C. E.	Cleveland	1852	
Andrews, F. M	Dayton	1862	*Army.*
Angel, E.	Akron.	1852	
Arnold, Emil.	Ironton	1873	
Baily, J. S.	Freeport.	1873	1875
Baggs, James	Ontario	1866	1868
Baker, A. H.	Cincinnati	1846	1865
Baker, Timothy H.	Wooster,	1851	1871
Ballard, H. D.	Findlay		1871
Blackman, G. C	Cincinnati	1860	1871
Boalse, A. N	Lockburn	1848	
Bœrstler, G. W	Lancaster.	1846	1871
Bonner Stephen	Cincinnati	1847	1876
Boyle, C. E.	Columbus	1851	1870
Bracken, W. C	Jersey	1868	1872
Brennan, Thomas.	Dayton	1855	1858
Bridge, W. W.	Marion.	1859	1864
Brown, B. S.	Bellefontaine	1855	1873
Brown, E. T.	Logan.	1849	
Bronson, James	Newton Falls.	1852	
Buckner, Philip J.	Cincinnati	1850	
Buckner, William	Hamilton	1853	

NAME.	P. O. ADDRESS.	ADMITTED.	DIED.
Butterfield, John	Columbus	1846	1847
Caldwell, Joseph	Huron	1857	1866
Carey, Abel	Salem	1852	1872
Carrol, Thomas	Cincinnati	1854	1871
Chamberlain, E. K.	Cincinnati	1847	1847
Chase, B. S	Akron	1870	1878
Conner, P. S.	Cincinnati	1853	1854
Cook, Charles C.	Youngstown	1862	1863
Cook, F.	Atwater	1853	1857.
Cox, D. A.	New Paris	1846	
Crook, James M.	Dayton	1853	
Crume, P. M.	Eaton	1847	1869
Danna, M.		1849	
Dawson, John	Columbus	1851	1866
Dean, G. A.	McComb	1874	1875
Dean, W. F.	Milan	1857	*Army.*
Delemater, John	Cleveland	1850	1867
Dodge, I. S.	Cincinnati	1854	1872
Doherty, G. A.	Cincinnati	1868	1873
Dolman, Wm	Cleveland	1852	
Ells, G. E.	Lithopolis	1849	1867
Farrington, S. H.			1875
Foote, H. E.	Cincinnati	1854	1871
Fries, George	Cincinnati	1862	1866
Fyffe, E. P	Urbana	1851	1867
Gabriel, R. W.	Dublin	1854	1860
Gailey, J. D.	Marion	1851	
Gans, S.	Cincinnati	1861	1864
Gard, B. F.	Columbus	1847	1849
Gatson, E.	Morristown	1849	1868
Gille, L. C. C.	Westville	1853	
Green, M.	Cambridge	1855	1856
Griswold, Wayne	Circleville	1866	
Haggott, J. P	Eaton	1861	1862
Haines, Job	Dayton	1853	1860
Haines, V.	Cambridge	1853	1865
Hall, W. C	Fayetteville	1859	1872
Hall, C. B.	Keystone Furn'ce		1876

NAME,	P. O. ADDRESS.	ADMITTED.	DIED.
Helmick, G. W.	Harrisburg.	1848	
Henderson, W.	Delaware.	1848	1866
Hopkins, Rudd C	Newburg.	1852	*Army.*
Hornbeck, L.	New Carlisle	1849	1865
Howard, R. L.	Columbus	1846	
Hughes, J. W.	Berlin Centre.	1858	1869
Hurxthall, F. T.	Massillon.	1849	
Johnson, Wm.	Delaware.	1850	
Jones, A. B.	Portsmouth.	1868	1876
Judkins, J. P.	Cincinnati	1846	1867
Judkins, Wm.	Cincinnati	1847	1861
Kable, W. R.	Bellebrook.	1846	1859
Keever, M. H.	Ridgeville	1850	1878
Kennedy, J. L.	Batavia	1864	1866
Kineman, J. W.	Ashland.	1870	1874
Kreider, M. Z.	Lancaster.	1846	1852
Kyle, J. G	Xenia	1856	1870
Lathrop, H.	Columbus	1846	1849
Lawson, L. M.	Cincinnati	1853	1864
Little, J. A.	Delaware.		1877
Longworth, L. R.	Cincinnati	1875	1879
Marshall, N. T.	Cincinnati	1854	
Martin, Joshua.	Xenia	1853	1857
Matson, A. F.	Logansville.	1857	1867
McBride, Alex.		1865	1876
McCracken, W. A.	Springfield.	1867	
McGuire, W. B	Waynesville	1848	
McMeans, R. R.	Sandusky	1854	1862
McNeal, F. D.	Canal Dover	1854	
McDonell, W. J.	Portsmouth	1872	1878
Mendenhall, G.	Cincinnati	1854	1874
Merriman, A	Madison	1853	1867
Metz. Abram	Massillon	1852	1875
Millikin, Samuel.	Hamilton	1853	
Mitchell, G. F.	Mansfield	1850	1869
Mitchell, M.	Mansfield	1863	1864
Moore, Jonas	Marietta.	1852	1856
Morehead, W.	Zanesville	1855	1861

NAME.	P. O. ADDRESS.	ADMIT-TED.	DIED.
Mount, William	Cumminsville.. .	1853	1866
Mussey, R. D.	Cincinnati . . .	1847	1866
Naw, J. H	Carroll.	1873	1875
Norton, J. C	Marion.	1848	
Oliver, J. Q.	Cincinnati . . .	1854	
Pease, L. T.	Williamsburg. .	1863	1874
Peck, W. V.	New Richmond .	1872	
Potter, J. F	Cincinnati . . .	1854	1868
Purple, J. G.	Brooklyn. . . .	1853	
Putnam, J.	Gahn	1873	1873
Reid, J. T.	Fairfield	1864	1864
Rigdon, L.	Hamilton. . . .	1853	1865
Risinger, J. F	Galion.	1849	1866
Rives, L. C.	Cincinnati . . .	1850	1870
Robertson, James . . .	Perrysburg. . .	1853	1854
Rodman, Thomas S. . .	Cleveland . . .	1852	
Russell, I. W	Mount Vernon .	1870	1876
Sachse, G. J.	Columbus . . .	1846	1860
Sanders, Moses	Norwalk. . . .	1853	
Shædford, R. J	Midway	1853	1868
Sharpe, E. C	Williamsburg. .	1859	1868
Sheppard, W. A. . . .	New Vienna . .	1856	1872
Shotwell, John T. . . .	Cincinnati . . .	1850	1850
Silver, D. H.	Columbus . . .	1851	1864
Skinner, J. S.	Columbus . . .	1849	
Smith, A. C	Medina	1852	1861
Smith, Edmund		1850	1850
Smith, Harry	Mount Vernon .	1869	1874
Smith, J. A.	Piqua.	1853	1858
Smith, S. M.	Columbus . . .	1846	1874
Smith, James	Clavington . . .	1876	1877
Spillman, Henry. . . .	Medina	1855	1862
Stanton, Benjamin . . .	Salem.	1852	1861
Story, R	Cleveland . . .	1852	1866
Taggart, T. M	Dalton.	1857	1867
Taliaferro, Wm. T . . .	Cincinnati . . .	1854	1871
Tappan, Benjamin . . .	Steubenville . .	1852	
Thompson, J. W. . . .	Columbus . . .	1860	1862
Thompson, M.	Mount Vernon .	1850	1867

NAME.	P. O. ADDRESS.	ADMITTED.	DIED.
Thompson, Robert. . .	Columbus . . .	1846	1865
Thomas, K. G. . . .	Alliance	1858	1869
Thorn, E.	Yellow Springs .	1867	1876
Tilden, Daniel	Sandusky . . .	1856	1870
Tilden, D. J.	Toledo	1850	
Tullis, J. W.	Troy	1851	
Turney, S. D.	Circleville . . .		1878
Van Pearse, James . . .	Columbus . . .	1850	
Van Tuyl, D. R. . . .	South Bend . .	1850	
Van Tuyl, H	Dayton	1853	
Waddel, Thomas . . .	Toledo	1878	1879
Wallace, R	Lewisburg . . .	1861	1865
Weatherby, A. S. . . .	Cardington . . .	1865	1870
White, John		1848	
Wigton, A. E.	Delaware	1861	1864
Woodward, Chas. . . .	Cincinnati . .	1857	1872
Woody, Robert	Eaton	1863	1872,

LIST OF MEMBERS

OF THE

OHIO STATE MEDICAL SOCIETY,

WITH

POST OFFICE ADDRESS AND DATE OF ADMISSION.

LIST OF MEMBERS

OF THE

OHIO STATE MEDICAL SOCIETY,

With Post Office Address and Date of Admission.

NAME.	P. O. ADDRESS.	ADMITTED.
Adams, D. P.	Columbus	1875
Adams, John M	Washington C. H.	1874
Agard, Aurelius H	Sandusky	1853
Alcorn, A. W	Ravenna	1870
Allen, D. B.	West Liberty	1865
Allen, Dudley.	Oberlin	1870
Amick, M. L	Cincinnati	1874
Andrus, A.	Westerville	1872
Asbury, T. B.	Worthington	1878
Ayres, J. H.	Urbana	1876
Ayers, S. C.	Cincinnati	1877
Baker, Norman	Lucas	1858
Baldwin, J. F	Columbus	1875
Ballinger, Wm. J.	Plain City	1864
Banning, J. C	Round Head	1876
Barker, W. M.	Attica	1876
Barnes, W. T.	Fredericksburg	1879
Bartlett, E. P	Genoa	1874
Battles, W. S	Shreve	1858
Beach, A. J.	Belleville	1863
Beach, J. N.	West Jefferson.	1859
Beach, T. D.	Catawba	1874
Beach, W. M	London	1879
Beagrand, Pierre	Fremont.	1853
Beardsley, C. E	Ottawa.	1869

NAME.	P. O. ADDRESS.	ADMITTED.
Belden, A. C.	Akron	1878
Belding, A	Ravenna	1853
Bell, A. W	Bloomsville	1877
Bell, A. E.	Zanesville	1855
Belts, Mrs. Helen L.	Youngstown	1875
Bennett, P. C.	Garretsville	1870
Bennitt, John	Cleveland	1869
Berger, S. H.	Toledo	1874
Berlin, E	Wapakoneta	1868
Besse, H	Delaware	1868
Bevington, J. S	Berlin	1878
Bigelow, Asa	Toledo	1874
Bigney, P. M	Cincinnati	1871
Bing, J. P.	Portsmouth	1851
Bington, Joseph	Williamstown, Va.	1876
Bishop, S. P.	Delta	1870
Blake, H. C.	Lockbourne	1878
Blake, W. H.	Shadeville	1878
Bland, Jerome	Poplar	1876
Blesch, P. E.	Columbus	1869
Blymeyer, A.	Delaware	1868
Bœrstler, G. W	Lancaster	1870
Bond, J. W	Toledo	1874
Bookwater, W. S.	Miamisburg	1879
Boone, Alonzo	Harrisburg	1879
Bowen, A. H	Waterford	1878
Boylan, A.	Milford Centre	1878
Bramble, D. D.	Cincinnati	1870
Brainard, A. C.	Orangeville	1870
Brainerd, H. C.	Cleveland	1870
Bricker, W. R.	Shelby	1848
Brinkerhoof, D. H	Fremont	1853
Brison, H. C.	Millerspoint	1877
Brockett, A. J.	Bristolville	1874
Brown, S. H.	Dennison	1876
Brook, G. W.	Ellsworth	1858
Brooks, Mrs. S.	Akron	1875
Brundage, A. H.	Xenia	1878

NAME.	P. O. ADDRESS.	ADMITTED.
Brush, E. C.	Columbus	1878
Bryant, W. G.	Springfield.	1871
Buckner, J.H	Cincinnati	1863
Buckingham, E. V. B.	Centerton	1874
Buechner, W. L.	Youngstown.	1879
Bunce, Wm.	Oberlin	1864
Bulen, Joseph	Grove City	1856
Burr, J. N.	Mount Vernon	1853
Butler, Geo. O.	Cleveland,	1870
Butler, G. W	Columbus,	1869
Cake, W. M	W. Independence	1875
Caldwell, W. W	Hamilton,	1874
Campbell, J.	Dennison	1876
Campbell, W. H.	Vanceburg, Ky.	1871
Carmichael, W. A.	Loveland,	1871
Carpenter. Julia W.	Cincinnati	1879
Carson, W, B.	McComb.	1874
Carson, Wm.	Cincinnati	1871
Carrick, A. L.	Cincinnati	1871
Casgrove, Thomas	Sylvania	1875
Cassat, M.	Cincinnati	1870
Chamberlain, D. H.	Toledo.	1877
Chamberlain, D P.	Toledo.	1874
Chapman, W. C.	Toledo.	1875
Chase, James L	Toledo	1874
Cherry, Wm	Toledo	1874
Chisholm, J. W	Mt. Perry	1873
Clark, Henry P	Ashland	1862
Clark, John H.	Mechanicsburg	1869
Clark, M. S.	Youngstown	1865
Coldham, Jas	Toledo	1874
Coleman, N. R.	Columbus	1875
Conklin, H. S.	Sidney.	1849
Conklin, W. J.	Dayton	1868
Conner, P. S.	Cincinnati	1868
Constant, W. S.	Delaware	1866
Cooney, H	Bryan	1875
Corey, John M.	Fremont.	1874
Corson, John.	Middletown	1866

NAME.	P. O. ADDRESS.	ADMITTED.
Corson, O. M.	Ironton	1879
Corwell, H. G.	Youngstown	1874
Cotton, J. D.	Marietta	1852
Coulson, E. G.	Pennville	1875
Courtwright, A. P.	Circleville	1871
Courtwright, G. S.	Lithopolis	1867
Cox, J. M.	South Salem	1877
Crafts, John M.	Mantua	1874
Craig, J. W.	Mansfield	1874
Culbertson, Howard	Zanesville	1855
Culver, B. R.	Belpre	1874
Curry, J. H.	Toledo	1876
Cushing, H. K.	Cleveland	1857
Cuykendall, M. C.	Bucyrus	1874
Dandridge, A. S.	Cincinnati	1854
Dandridge, N. P.	Cincinnati	1871
Darwin, Henry W.	Gettysburg	1859
Daugherty, J. D.	Dayton	1879
Davis, B. W.	Marion	1878
Davis, John	Dayton	1853
Davis, John	Cincinnati	1854
Davis, Wm. B.	Cincinnati	1865
Davy, R. B.	Cincinnati	1875
Dawson, W. W.	Cincinnati	1853
Dean, Geo. A.	McComb	1874
DeBra, J. F.	Miamisburg	1879
Denig, R. M.	Columbus	1851
Denman, M. N.	West Unity	1874
Dickey, Thomas A.	Middletown	1879
Dickson, M. M.	Johnstown	1877
Donahoe, H. J.	Sandusky	1854
Donnellan, J. E.	Germantown	1879
Dorland, W. L.	Galion	1878
Douglass, W. W.	Toledo	1874
Downs, Samuel	Waterville	1876
Drake, I. L.	Lebanon	1859
Drury, Wm. H.	Columbus	1859
DuBois, E. B.	Dayton	1879

NAME.	P. O. ADDRESS.	ADMITTED.
Duncan, S. C.	Constantia	1877
Duncan, James A.	Toledo	1874
Dunlap, Alexander	Springfield	1854
Dunlap, A. S.	Dayton	1868
Dunlap, C. W.	Springfield	1869
Dwyer, R. S.	Samantha	1879
Ealy, A. E.	Dayton	1879
Ebright, L. S.	Wadsworth	1870
Eckman, Hiram	Tuscarawas	1869
Edwards, J. D.	Xenia	1867
Ellsberry, W. W.	Georgetown	1874
Erwin, R. W.	Bay City, Mich.	1872
Estep, William.	Lloydsville	1852
Evans, Geo. B.	Middletown	1879
Evans, R. P.	Franklin.	1879
Everhard, N. S.	Wadsworth	1870
Ewing, James	Hebron	1875
Fackler, J. E.	Versailles	1879
Falconer, Cyrus	Hamilton	1854
Farrell, T. J.	Columbus	1873
Fenneberg, Gustavus.	Toledo	1874
Ferrell, C. B.	Columbus	1878
Finch, C. M.	Portsmouth	1869
Firestone, J. L.	Salem	1870
Firestone, L.	Columbus	1852
Firmin, F. W.	Findlay	1874
Fisher, A. W.	Toledo	1875
Fisher, P. Q.	Nashport	1873
Fisher, W. S.	Bridgeport	1876
Follett, Alfred	Granville	1864
Forbes, S. F.	Toledo	1856
Ford, J. B.	Norwalk.	1876
Foster, Nathaniel	Cincinnati.	1854
Franklin, G. S.	Chillicothe	1876
Frizzell, W. A.	Freestone	1872
Fuller, A. B.	Loudonville	1868
Fuller, S. W.	Bellefountaine	1853
Gabriel, J. F.	Piqua.	1856

NAME.	P. O. ADDRESS.	ADMITTED.
Galbraith, E. J.	Frankfort	1876
Galer, Frank M.	DeGraff	1874
Gardner, G. W.	Harrisburg	1873
Gawne, A. J.	Cleveland	1870
Gay, N.	Columbus	1848
Gerwe, F. A. J.	Cincinnati	1854
Gibson, Richard McD.	Tiffin	1871
Gilchrist, R. S.	DeGraff	1856
Gilliam, D. T.	Columbus	1873
Glenn, Mrs. G. C.	Van Wert	1875
Goble, P.	Worthington	1849
Gonsaulis, C.	Sparta	1863
Goodlove, Wm.	Monterey	1874
Goodson, J. W.	Bellevue	1874
Gordon, T. W.	Georgetown	1849
Graefe, Phillip	Sandusky	1875
Graefe, Wm.	Sandusky City	1874
Granger, B. D.	Russell Station	1878
Gray, F. C.	Lewisburg	1879
Gray, S. S.	Piqua	1867
Greenamyer, P. S.	Smithville	1875
Green, H. S.	Cardington	1878
Green, J. W.	Fairfield	1853
Grissell, E.	Salem	1876
Guittard, F	Coshocton	1875
Hadlock, J. W.	Cincinnati	1871
Hague, J. H.	Nashville	1874
Hale, R. W.	Fostoria	1875
Halderman, D.	Columbus	1869
Hall, C	Burlington	1872
Hall, C. B.	Miller's	1872
Hamilton, J. W.	Columbus	1849
Hammell, M. J.	Circleville	1878
Hard, E. G	Medina	1875
Harmon, Julian.	Warren	1857
Harrison, Eugene B.	Napoleon	1869
Hart, B. F.	Marietta	1854

NAME.	P. O. ADDRESS.	ADMITTED.
Hart, C. A	Marietta	1877
Hartman, S. Duff.	Tippecanoe City	1874
Hathaway, Calvin	Edgerton	1874
Hathaway, Harrison	Weaver's Corners.	1874
Hazzard, J. S. R.	Springfield	1867
Hedges, W. B.	Beverly	1878
Heighway, A. E.	Cincinnati.	1870
Helbish, F. S.	Green Springs	1876
Helmick, G. W	Harrisburg.	1878
Helmick, S. C.	Commercial Point.	1873
Helmick, J	Harrisburg	1878
Henderson, D. W	Marysville.	1856
Henderson, J. P.	Newville	1850
Henderson, R. A.	Upper Sandusky.	1865
Hendrickson, Hugh	Lewis Centre	1868
Herrick, H. J.	Cleveland.	1868
Herrick, L. C.	Woodstock	1871
Hewetson, A. H.	St. Clairsville.	1878
Heyl, E.	Columbus.	1878
Higgins, C. W.	Big Plain	1869
Hildreth, C. C.	Zanesville	1853
Hill, G. W	Ashland	1873
Hill, N. S.	Neville	1866
Hill, H.	West Alexandria	1867
Hiner, S. B.	Lima	1874
Hines, Isaac N.	Cleveland	1874
Hines, J. A.	Van Wert	1879
Hirter, Carl.	Sandusky	1875
Hixson, C. C.	Hillsboro	1877
Hoege, George L.	Fostoria	1874
Hohly, Frederick	Toledo	1874
Hoff, J. W.	Pomeroy	1872
Holdt, George	Cincinnati	1871
Holliday, B. W	Cleveland	1875
Hoover, T. C.	Columbus	1873
Hough, J. B.	Waynesville.	1869
Hough, W. S	Cuyahoga Falls.	1875
Hovey, A. B.	Tiffin	1875

NAME.	P. O. ADDRESS.	ADMITTED.
Howard, E. W.	Akron	1852
Howard, H. C.	Akron	1877
Hubbard, J. C.	Ashtabula	1856
Huestis, Isaac	Chester Hill.	1869
Huggins, R. D.	West Alexandria	1871
Hughes, M. A.	Sandusky	1877
Hunt, A. H.	Blackleyville.	1868
Hunter, F. S.	Ashland	1878
Hurd, A	Findlay.	1870
Huston, R. C	Oxford	1868
Hyatt, E. H.	Delaware	1862
Hyde, Wm	Wauseon	1871
Iddings, A. H.	Dayton.	1879
Isham, A. B.	Walnut Hills	1871
Jackson, E. H.	Lancaster.	1878
Jacoby, F	Columbus.	1873
Jennings, E.	Dayton	1867
Jennings, J. D.	Sonora	1869
Jewett, W. H	West Canaan	1869
Jewett, H. S.	Dayton.	1871
Jobes, J. A.	German.	1870
Johnson, O	Worthington	1878
Jones, T.	London.	1878
Jones, T. W.	Columbus.	1847
Jones, L. M.	West Liberty	1869
Jones, R. E	Gomer	1863
Jones, W. W.	Toledo	1849
Jones, J. D	Newburg	1870
Jones, P. E	Wauseon	1874
Judkins, C. P	Cincinnati.	1878
Junkens, M. W.	Bellaire.	1859
Kay, Isaac	Springfield	1853
Kearney, T. H	Cincinnati.	1871
Kelly, H. R.	Galion	1868
Kelsey, L. S.	Cincinnati.	1879
Kemp, J. D.	Dayton.	1868
Kemper, A. C.	Cincinnati.	1871
Kennedy, J. C.	Batavia	1854

NAME.	P. O. ADDRESS.	ADMITTED.
Kendig, E. V	Haynesville	1874
Keyt, A. T.	Walnut Hills	1850
Kinsman, D. N.	Columbus	1864
Kingham, Joseph	Port Clinton	1875
Kitchen, B. F.	Clay Post Office	1872
Kitchen, H. W.	Cleveland	1874
Kirkley, C. A	Toledo	1874
Knowlton, A. P.	Olmstead Falls	1870
Knox, C. E.	Bellaire	1875
Kincaid, W. P.	New Richmond	1854
Kroesen, J. C.	Columbus	1878
Landon, C. P.	Westerville	1851
Landis, H G.	Columbus	1878
Lang, E. R.	Marietta	1871
Lamme, W. H.	Xenia	1853
Larimore, James	Newark	1875
Larimore, F. C.	Mt. Vernon	1871
Lash, H. M.	Athens	1879
Lash, J. W.	Athens	1879
Lawless, J. T.	Toledo	1874
Lee, E. B.	Garretsville	1870
Leonard, B. B.	West Liberty	1854
Leslie, J. M.	Frankfort	1878
LeVan, D. H.	Mt. Victory	1879
Lewis, Edward C.	Canal Dover	1870
Lewis, W. C.	Rushville	1869
Linskey, C. H.	Put-in-Bay	1876
Lisle, J. M.	Pataskala	1878
Loller, W. B.	Uricksville	1864
Long, J. W.	Bryan	1875
Longfellow, A. J.	Fostoria	1861
Loving, S.	Columbus	1858
Lowman, J. H.	Cleveland	1877
Lucky, J. B.	Elmore	1874
Ludington, H.	Cincinnati	1871
Ludlow, J.	Cincinnati	1871
Lyman, C. N.	Wadsworth	1852
Mack, John	Shelby	1853

NAME.	P. O. ADDRESS.	ADMITTED.
Mahlman, H. A.	Columbus	1869
Mann, H. L.	Wapakoneta	1875
Martin, Chancellor	Fort Seneca	1879
Martin, George	Huron	1877
Matchett, W. H.	Greenville	1862
Mills, J. T.	Jersey	1878
McCann, ———	Napoleon	1875
McCarty, Oliver	Polk	1858
McCasky, H.	Felicity	1868
McClellan, R. M.	Xenia	1875
McClure, James	Marietta	1866
McCollum, E. J.	Tiffin	1871
McConnelly, F. C.	Vermillion	1875
McCracken, J. W.	Portage	1877
McCurdy, John	Youngstown	1870
McCullough, J. G.	Bealsville	1868
McCullough, A. M. F.	Bealsville	1874
McEbright, Thomas G.	Akron	1866
McElwe, S.	Newcastle	1866
McFarland, J. A.	Tiffin	1850
McGraw, Aaron	Burton	1869
McGrew, Henry	Montgomery	1878
McGuire, D. J.	Norwalk	1870
McKechnie, ———	Wilmington	1876
McLaughlin, A. C.	Tremont City	1852
McLaughlin, R.	Butler	1869
McMann, E. W.	Napoleon	1875
McMillen, J. W.	Mt. Vernon	1878
McMurray, A. B.	Marion	1879
McNutt, H. E.	Bucyrus	1878
McNutt, E. A.	Huron	1877
Mead, M. L.	Cleveland	1875
Merrell, A. E.	Vermillion	1876
Metcalf, C. T.	Warren	1870
Metzler, A. S.	Buena Vista	1874
Miles, A. J.	Cincinnati	1869
Miller, A. C.	Orrville	1858
Miller, C. A.	Cincinnati	1871

NAME.	P. O. ADDRESS.	ADMITTED.
Minnick, W. H.	Wapakoneta	1879
Minor, T. C.	Cincinnati	1873
Mitchell, George	Mansfield	1868
Moore, A. C.	Amelia	1869
Moore, C. H.	Hardin	1879
Moore, Eugene L.	Moscow	1868
Moore, G.	Kinsman	1878
Moore, James	Ironton	1872
Moore, William	New Lisbon	1865
Morris, Jonathan	Ironton	1853
Morris, Joseph	Columbus Grove	1879
Morse, D. A.	Dayton	1868
Mory, J. J.	St. Henry	1871
Mosgrove, W. A.	Urbana	1875
Mounts, J. L.	Morrow	1860
Mouser, J. A.	LaRue	1870
Mullen, T. J.	New Richmond	1855
Murbach, A. J.	Archibald	1874
Murphy, J. A.	Cincinnati	1872
Murray, L. S.	Medina	1870
Muscroft, C. S.	Cincinnati	1854
Mussey, W. H.	Cincinnati	1854
Myers, Benjamin	Ashland	1874
Nash, W. H. H.	Quaker Bottoms	1874
Nau, J. G.	Carroll	1878
Neal, T. L.	Dayton	1863
Neil, Alexander	Columbus	1868
Nelson, H. W.	Steubenville	1878
Nolan, J. G.	Toledo	1874
Norman, Frank	Columbus	1873
Nourse, J. D.	Lancaster	1873
Nunemaker, H. B.	Columbus	1875
Orr, G. B.	Cincinnati	1871
Osborn, A. L.	Peru	1875
Otis, W. D.	Pataskala	1878
Owsley, J. B.	Jacksonburg	1871
Paige, W. F.	Johnstown	1864
Paige, W. N.	Johnstown	1878

NAME.	P. O. ADDRESS.	ADMITTED.
Palmer, C. D	Cincinnati.	1871
Pape, Leopold.	Sandusky	1875
Patterson, A. V	Mansfield	1861
Patterson, W. S	New Lexington	1874
Paul, T. E.	Ottawa	1877
Pearce, Enoch, Jr	Steubenville	1859
Pearce, H. C	Urbana	1867
Pearce, L. C.	Cable.	1869
Philips, W. H.	Kenton.	1866
Pickard, P.	Mt. Vernon.	1878
Pixley, M. S	Portsmouth	1873
Pixley, Sumner	Cleveland.	1870
Pollock, Calvin.	Donnelsville.	1873
Pomerene, P. P	Berlin.	1870
Pomerine, Joel.	Millersburg	1858
Pomeroy, O.	Chardon	1869
Pooley, J. H	Columbus.	1876
Potter, J. B.	Canal Winchester	1847
Pratt, E. B	Mt. Sterling.	1869
Preston, J. C	Brunswick	1857
Price, Joseph	Randolph.	1852
Priest, C. S	Newark.	1878
Priest, Jonathan	Toledo	1874
Primrose, J. P.	Nelsonville	1872
Pullen, G. W	Logan	1864
Quinn, J. J	Cincinnati.	1875
Randall, R.	Bath	1870
Ranney, S. W.	Hope.	1878
Ransohoff, Joseph	Cincinnati.	1879
Reamy, T. A	Cincinnati.	1855
Reed, A. B.	Brooklyn	1870
Reed, A. N.	Norwalk	1870
Reed, C. H	Toledo	1873
Reed, J. G	West Chester	1879
Reed, J. T	Massillon	1875
Reed, E. J	Leipsic.	1878
Reed, R. C. S.	Jones' Station	1867
Reed, Wm	Iberia.	1865

NAME.	P. O. ADDRESS.	ADMITTED.
Reeve, J. C.	Dayton	1861
Reid, J. L.	Van Wert	1874
Rice, J. B.	Fremont	1868
Ridenour, A. W.	Massillon	1875
Ridenour, W. T.	Toledo	1870
Ridgway, N. B.	Galion	1878
Riggs, J. U.	Bryan	1873
Robertson, Charles	McConnelsville	1849
Robinson, J. D.	Wooster	1856
Rogers, J. G.	New Richmond	1853
Root, H. A.	Toledo	1874
Rosenfeldt, A.	Cincinnati	1871
Russ, R. C.	Hillsborough	1879
Russell, J. W.	Mt. Vernon	1848
Sadler, J.	Columbus	1878
Salisbury, J. N.	Russellville	1872
Sauer, Mrs. P. B.	Napoleon	1875
Saunders, H.	Oxford	1879
Saylor, Wm.	Gratis	1871
Scarf, W. D.	Bellefontaine	1855
Scheibenzuber, A.	Dayton	1879
Schnetzler, H. M.	Toledo	1874
Schueller, J. B.	Columbus	1869
Schwab, Lewis	Portsmouth	1872
Scott, A. J.	Loudonville	1870
Scott, W. A.	Swanton	1878
Scott, W. J.	Cleveland	1855
Scott, Xenophon C.	Cleveland	1874
Scoville, S. S.	Lebanon	1859
Seaton, A. M.	Cross Roads	1869
Seely, W. W.	Cincinnati	1871
Sellers, A.	Lebanon	1867
Senour, J. G.	Troy	1878
Sensaman, H	Tremont	1871
Severance, R. A	Bellevue	1874
Shackleton, E. L.	Auburn, California	1871
Sharp, Joseph	Sugar Grove	1878
Shepherd, W. E. W.	Nelsonville	1873

NAME.	P. O. ADDRESS.	ADMITTED.
Shepherd, W. W.	Hillsboro	1871
Shoemaker, J. M.	Napoleon	1869
Sidwell, N. H.	Wilmington	1871
Silver, D. R.	Sidney	1870
Sinnett, E.	Granville	1850
Slocum, Charles	Defiance	1874
Smith, C. T.	Middleport	1873
Smith, D. B.	Cleveland	1870
Smith, H. L.	Bloomingburgh	1878
Smith, James	Clarington	1876
Smith, S. D.	Lockington	1874
Smith, W. K.	Deersville	1875
Snodgrass, J.	Kenton	1878
Snyder, D. J.	Scio	1850
Souders, Samuel	Dayton	1879
Southard, J. M.	Marysville	1860
Sparrow, T. R.	Columbus	1873
Speer, A. T.	Newark	1878
Spees, S. J.	Hillsboro	1863
Spinning, P. T.	Springfield	1876
Sprague, James.	London	1866
Stanley, E.	Sandusky	1870
Stark, W.	Cincinnati	1871
Stansell, J. A.	Forest	1866
Stanton, Byron	Cincinnati	1871
Steeley, E. E.	Anna	1877
Steeley, H. J.	Anna	1869
Stein, Geo. T.	Columbus	1873
Stephenson, J. H.	Leesville	1860
Stephenson, Y.	Georgetown	1872
Stevens, E. B.	Lebanon	1853
Steward, S. H.	Columbus	1869
Stewart, C. A.	Lynchburg	1879
Stewart, T. H.	Church Hill	1877
Stillwell, Thomas	Fremont	1857
Stockstill, J. W.	New Carlisle	1867
Stouffer, C. C.	West Salem	1878
Sweney, R. L.	Marion	1859

NAME.	P. O. ADDRESS.	ADMITTED.
Sykes, W. H.	Plymouth	1870
Taggart, E. Curtis	Hilliard	1871
Tauber, B.	Cincinnati.	1876
Taylor, W. H.	Cincinnati	1874
Thomas, B. A.	Rushville	1878
Thompson, J. B.	Columbus	1846
Thompson, J. C.	South Bloomfield	1848
Thompson, W. R.	Troy	1871
Thorn, E. J.	Yellow Springs	1878
Thorn, S. S.	Toledo	1873
Thurston, R. C.	Oxford	1868
Tichnor, E. J.	Lebanon	1869
Tipton, T. C.	Williamsport.	1878
Tobey, H. A.	Columbus	1878
Tupper, C. E.	Ottawa	1874
Underhill, J. W.	Cincinnati	1874
Underwood, A. H.	London.	1869
Underwood, W. J.	Akron	1869
Vail, D. W.	New Haven	1874
Vanatta, E.	Fultonham.	1855
Vance, D. M.	Urbana	1876
Vandervort, J. W.	Harveysburg.	1864
Vaughters, Thos. G.	Portsmouth	1872
Voorhees, S. R.	Mason	1873
Waddick, J. M.	Toledo	1873
Wade, D. E.	Cincinnati	1854
Wagenhals, P. M.	Columbus	1869
Waggoner, Joseph	Ravenna	1870
Wallace, John	Rushsylvania	1879
Wallace, J. P.	Bellefontaine	1879
Walton, Geo. E.	Cincinnati	1871
Wallace, J. H.	Smithville.	1870
Wangaman, A.	Tiffin	1877
Ward, C. S.	Warren	1875
Waterman, H. C.	Middleport	1868
Weaver, J. M.	Dayton	1865
Weber, G. C. E.	Cleveland	1857
Webster, E. M.	Kingsview	1876

NAME.	P. O. ADDRESS.	ADMITTED.
Weed, F. J	Cleveland.	1870
Welsh, B. F.	London.	1859
Welsh, J. M.	Deersville.	1873
Wellons, G. S.	Barnesville.	1878
Westbrock, A. E.	Ashley	1872
West, T. J.	Melmore	1875
White, J. H.	Delaware	1866
Whitehead, A. M	Springfield	1871
Whiting, L. M	Canton	1870
Whitmar, Joel E.	Mt. Hope.	1874
Whittaker, J. T	Cincinnati.	1871
Wiggins, C. W	Big Plain	1869
Wilbur, A. M	West Unity.	1874
Wise, S. P	Millersburg	1875
Wilson, Albert	Sidney	1854
Wilson, D. C	Ironton.	1872
Wilson, J. L.	Greenfield.	1871
Wilson, Samuel	Wooster	1854
Willson, W. H.	Greenfield.	1865
Willard, G. P	Tiffin.	1875
Williams, A. S.	Fostoria.	1852
Williams, E.	Cincinnati.	1856
Williams, T. B.	Delaware	1860
Williams, A. L	North Lewisburg	1871
Williams, J. L.	Cardington	1878
Wilkins, John A.	Delta.	1874
Willis, P. A.	Bellepoint.	1868
Wirth, R	Columbus.	1865
Wolfley, W. J.	Columbus.	1873
Wood, D. B.	Warren	1852
Wood, D. M	Warren	1875
Woodbridge, T	Youngstown.	1870
Woodruff, L.	Alton.	1867
Woods, J. R.	Mendon	1871
Woodward, W. R	Cincinnati	1871
Wylie, A. N	Ripley	1866
Wylie, J. L.	Ripley	1872
Yates, Porter	Green Spring	1875
Yost, W. N.	Mt. Blanchard	1879

HONORARY MEMBERS.

W. M. Awl,* M. D., Columbus.
M. J. Bailey, M. D., New York City.
J. A. Brewster, M. D., Lawrenceburg, Indiana.
J. D. Blackburn, M. D., Covington, Kentucky.
G. W. Bœrstler, M. D., Lancaster.
P. Beeman, M. D., Sidney.
Wm. Brodie, Ex-president Michigan State Medical Society, Detroit.
Professor H. H. Childs, Pittsfield, Massachusetts.
H. Conant, M. D., Maumee City.
G. B. Guthrie, M. D., New York City.
M. M. Harding, M. D., Lawrenceburg, Indiana.
J. L. Hayes,* M. D., Philadelphia, Pa.
R. E. Houghton, M. D., Richmond, Ind.
S. P. Hunt, M. D., Sterling, Illinois.
G. S. B. Hempstead, M. D., Portsmouth.
E. W. Jenks, Ex-President Michigan State Medical Society, Chicago, Illinois.
Professor J. Knight, New Haven, Connecticut.
J. W. Kitchen, M. D., Indianapolis, Indiana.
Jared P. Kirtland*, Cleveland.
John Kerr, Canton, China.
Professor Charles A. Lee,* New York City.
W. B. Lyons, M. D., Huntington, Indiana.
R. R. McIlvaine, M. D., New York City.
Professor R. D. Mussey,* Cincinnati.
J. F. Noyes, Delegate, Michigan State Medical Society.
Professor Willard Parker, New York City.
J. M. Stevenson, M. D., Pennsylvania.
H. K. Steele, M. D., Denver, Colorado.
Geo. Sutton, M. D., Aurora, Indiana.
Professor Wm. Tully,* New Haven, Connecticut.
Robert Thompson,* M. D., Columbus.
E. L. Hill, Oxford.
Wm. Trevitt, Columbus.
L. W. Moe, Ottawa.
Richard Gundry, Catonsville, Maryland.
Roberts Bartholow, Philadelphia, Pa.

* Deceased.

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Professor Ferdinand Hebra, Vienna, Austria.
Professor Isidor Neumann, Vienna, Austria.
Professor Herman Widerhofer, Vienna, Austria.
Professor Carl Sigmund, Vienna, Austria.
Professor Hermann Zeissl, Vienna, Austria.
Professor Ed. C. Seaton, Medical Inspector of the Privy Council, London, England.
Professor M. Jules Guerin, Member Imperial Academy of Medicine, Paris, France.